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MOTORTREND

July 2020



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FUTURE CARS

The most exciting new cars, trucks, and SUVs coming in the next few years. All in one place.

Tests & Drives



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In this strange new world, new vehicles are being made as always. See them all here.

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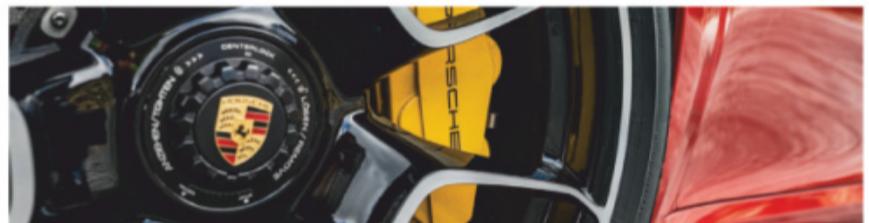
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The 70.1% solution, or car love in the time of coronavirus

It isn't easy to find good news these days, but here's something: Given the nature of the global pandemic and our government's reaction to it, if you are reading this column, it means the U.S. Postal Service is still in business delivering magazines (a shout-out to Eric from the San Pedro post office).

These are vexing days. As individuals, our No. 1 priority within a sprawling nation of 328 million is to stay safe. That's the macro picture. On the micro side, here at *MotorTrend* it means delivering engaging and useful information to our readers while understanding that buying a new car is not necessarily atop your to-do list.

To wit, as physical distancing continues to be the best method of managing this terrible disease, how does *MotorTrend* go about testing, photographing, and creating videos of cars—at a time when “transmission” when referencing a gearshift knob can mean two very different things?

Good question.

First, we need to thank automakers for keeping the lights on (while simultaneously producing much-needed ventilators and masks) and continuing to have their press fleet representatives distribute vehicles for evaluation.

Within days of lockdown, Porsche sent out characteristically precise instructions for sanitizing cars between drivers, and we are following those guidelines to the letter (use at least 70.1 percent isopropyl alcohol, not bleach-based solutions, to preserve car interiors while killing any novel bugs).

Even so, some automakers have taken the extra-cautious path and have shut down their media fleets. Our proving grounds at Auto Club Speedway in Fontana are closed. No shame in either. The safety of employees and contractors is paramount. But if you are wondering why certain cars aren't represented here and why there's a sudden paucity of quarter-mile times, that's why.

Meanwhile, *MotorTrend* photographers have had to navigate a new set of rules and regs. Unable to perform car-to-car action shots, which require a camera-car driver and photographer to be in close proximity, we've created novel ways to get action shots. Car interiors can no longer be shot from within the featured car, so we've engineered ways to manipulate a camera from outside the vehicle. Even panoramic multicar shots in scenic locations are a no-go due to physical distancing restrictions.

How we write about cars has needed to adapt, as well. Inside these pages you will see articles involving high-performance vehicles. We drove them through many of our usual haunts in the foothills surrounding Los Angeles, as well as some of the world's most scenic places.

How does *MotorTrend* go about testing cars at a time when “transmission” can mean two very different things?



But you may notice that the tone of our writing has shifted. During this time of collective fear and uncertainty, it feels right to temper runaway enthusiasm while still paying appropriate tribute to the cars and the roads we traverse.

You may question the point of writing about cars in the time of #SaferAtHome. Escapist content may be just what some people need when faced with yet another disheartening briefing from government officials. Who knows? You may find your next car reading this issue.

Sooner or later, though, we'll all get back to work. Most of us will still need cars to get there. By the time you read this, that may already be the case. However, as I write this in April, that seems presumptive, as numerous events stretching deep into summer have already been delayed or canceled.

We hope you consider us a respite from uncertainty, fear, and anxiety. We'll endeavor to safely deliver stories to make you smile, laugh, furrow, consider, and ponder—in the hopes that someday in the not-distant future we will gather again and admire the sheet-metal that makes our pulses race and our nostrils flare.

In the interim, please, be well. ■

Our Christian Seabaugh wipes down one of our test vehicles with 70.1 percent isopropyl alcohol, a step we take before and after we drive. We aren't using gloves because first responders need them more. We just wash our hands a lot more. Plus a quick spritz of isopropyl works, too.



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WORDS NICK YEKIKIAN



THE RETURN OF THE **VENZA** EXCLUSIVE FIRST LOOK

VENZA



TOYOTA'S KINDA-SORTA CROSSOVER MAKES A COMEBACK, AS A HYBRID

Not quite a car, not quite an SUV, the Toyota Venza took its last test-drive in 2017, but it's back for the 2021 model year with a much clearer mission statement. Think of it as the young-family hauler of Toyota's crossovers, blurring the line between mainstream Toyota cars and Lexus luxury cars.

With a wheelbase of 105.9 inches, an overall length of 186.6 inches, and a width of 73.0 inches, this five-seater (no third-row option, we hear) will dimensionally fit between a RAV4 and a Highlander in Toyota's lineup.

When we last drove the Venza, we wished Toyota would have pushed the

envelope just a little bit more when it came to interior and exterior design, and that's exactly what it's done now. The 2021 Venza ditches the dorky front fascia and frumpy rear end of the old car for something sleek, forward-looking, and no doubt developed alongside the handsome Mirai concept that was introduced late last year. But that's just on the outside.

Underneath the all-new bodywork lives Toyota's TNGA-K architecture and its Hybrid System II powertrain—it's the only powertrain available in the new Venza. A 2.5-liter DOHC four-cylinder is supplemented by three electric motors—two up front, one out back—and total

system output is rated at 222 hp. Aided by electronically controlled variable valve timing, an electric water pump, and a variable oil pump, Toyota estimates the LE trim will get 40 combined mpg.

In addition to its Eco, Sport, and Normal driving modes, the new Venza can also be driven for short distances in EV mode, though Toyota hasn't yet specified exactly how far or how fast the car will go on battery power alone. According to Toyota, throttle response should be sharp thanks to the electric motors that augment low-end torque. Although the Venza gets Toyota's e-CVT, a sequential-style shiftable on the gear selector allows drivers to "downshift" should they desire a little extra regenerative braking.

All 2021 Venzas will come with an on-demand AWD system as standard. Most of the time, 100 percent of the engine's power will be routed to just the front wheels via the e-CVT and electric motors. In slippery situations, the electric motor at the rear axle will kick in to provide all-wheel-drive traction.

There are struts up front and a multilink setup at the rear, which should give a nice balance between handling and ride comfort. Toyota also included a





Toyota has attempted to ensure the Venza is as relaxing as possible. Special insulation throughout limits noise that enters the cabin, and acoustic glass minimizes wind noise.



brake-based torque-vectoring system called Active Cornering Assist, which activates the stability control to slow the wheels on the inside of a curve and improve handling in certain situations. The hybrid system also uses a torque preload function to improve traction off

the line and handling on slippery roads. According to Toyota, the system can also help reduce understeer.

Toyota includes its Predictive Efficient Drive system, which uses the navigation system to analyze driving habits and road conditions in order to optimize charging of the battery. PED analyzes frequently driven routes—your daily commute, for example—to learn when the car might slow down or come to a stop. All in all, the system helps reduce energy consumption and improve efficiency.

At launch, three trims will be available: LE, XLE, and Limited. All trims will come with Android Auto, Apple CarPlay, and Amazon Alexa integration as standard. LE trims get a 4.2-inch color display in the gauge cluster, an 8.0-inch infotainment display, and a six-speaker

audio system. All trims get an eight-way power-adjustable driver's seat, too.

The XLE trim ups the ante, granting a 7.0-inch cluster display and the option of a nine-speaker JBL audio system, a 10.0-inch head-up display, and a 12.3-inch infotainment screen. However, there's a small problem: Look closely, and you'll notice no physical volume knob on the optional infotainment system—make of that what you will. The Limited trim comes with the JBL hi-fi and 12.3-inch infotainment screen as standard. LE-trimmed cars come on 18-inch alloys, and Limited and XLE trims ride on 19-inch chromed multispoke wheels.

Perhaps the Venza's coolest luxury feature is the optional electrochromic glass roof. A first for Toyota, the glass can be dimmed at the touch of a button. At its most opaque, the glass scatters sunlight entering the cabin to brighten it up without making it too toasty; when it's fully transparent, the roof gives a full view through for stargazing or simply checking the weather.

Utility is paramount, so there's 36.3 cubic feet of storage behind the rear seats. The Ford Edge, a non-hybrid crossover of similar proportions, offers 39.2 cubic feet of space when the second row seat is up. Toyota says the hybrid battery fits under the second row and doesn't eat into cargo volume.

Toyota is including its 36-month/36,000-mile basic warranty, with hybrid-related components covered for up to eight years or 100,000 miles. The hybrid battery is covered for 10 years or 150,000 miles and is transferable across ownership.

Toyota didn't say when we'll see the new Venza on dealer lots or how much it'll cost. We think we'll see it at the end of this year or early in 2021. As for pricing, the last Venza started at around \$27,000, but that was in 2015. Considering it fits between RAV4 and Highlander, we expect the 2021 model to come in closer to a \$35,000 price point.



Intake

2021 Audi A3 Sedan

Sedans are sailing against serious headwinds these days, but Audi isn't ready to give up. The fourth-generation 2021 Audi A3 is here with a more aggressive look and a load of tech designed to draw your eye away from all the SUVs in the room.

You'll immediately recognize Audi's smallest, least expensive sedan; its look is more evolutionary than revolutionary, but it's undeniably more assertive with far more lines than curves in its sheetmetal. They're most obvious up front, but don't miss the deeply sculpted sides and the Radwood-worthy Audi logo on the rear doors—an '80s brand throwback. Audi designers also looked to draw out the roofline slightly and tighten up the rear end to give the A3 sedan a little more of that four-door coupe look that's in vogue.

The changes make the car slightly longer, wider, and taller. It's not all cosmetic, as the extra 0.4 inch of roof height combined with lower seats has yielded an extra 0.8 inch of headroom in the front row. The alterations have also made for an aerodynamic improvement, which should help fuel economy.

You'll recognize the inside of the new A3 if you have poked around a more expensive Audi of late. The brand's modern, industrial, high-touch interior design has been successfully distilled to the A3's dimensions, giving it a



Big screens and starfighter looks make it easy to forget this is Audi's least expensive model.

FIRST LOOK



sophisticated air. The design is dominated by a 10.1-inch touchscreen infotainment screen canted toward the driver and a 10.3-inch digital instrument cluster. The latter can be upgraded to a 12.3-inch unit with the full Audi Virtual Cockpit software suite, allowing you to make Google Maps nearly the whole screen for easy navigation. A head-up display is also available.

If you're not feeling connected enough yet, Audi has the technology for that. In addition to an in-car LTE-based Wi-Fi hot spot, the A3 comes with Apple CarPlay and Android Auto and an Audi app that allows your phone to act as a key. Wireless charging is also available when all those

apps wear down your battery.

There's also the expected suite of safety technologies. Forward collision warning and automatic emergency braking are on board, and with them comes adaptive cruise control. Backup cameras are required these days, and Audi doubles down with a 360-degree camera and cross-traffic alert in case you don't see that car coming down the street as you back out.

Audi is advertising a host of new powertrains for other markets, but we're confident the U.S. will continue to see a 2.0-liter turbocharged four-cylinder under the hood with 184 hp, plus an option of a 228-hp upgrade. It's possible the company will make its new 148-hp 1.5-liter turbo-four available here for shoppers conscious of price and fuel economy, but don't count on it. Regardless, a seven-speed dual-clutch automatic transmission will handle the power, driving the front or all four wheels.

Audi claims any A3 you buy will have sporty handling, but if you'd like to pay a little extra, there's a sport suspension option. In addition to firming things up, it also includes adaptive dampers with varying degrees of stiffness.

The A3 will go on sale in Europe in May, but it typically takes a year for Audis to come stateside after their global debut. In such a competitive segment, we don't expect the price to change much from the current starting point of \$34,295.

Scott Evans



Ford Truck Barrage Continues with Courier

The rumors are true. Ford is adding a new compact pickup truck to its lineup. But instead of looking like the clearly car-based Ford Courier coupe utility sold in other markets, the unibody pickup will adopt a more rugged look to satisfy American tastes.

Underpinned by Ford's front-wheel-drive compact car platform, the new trucklet will slot beneath the Ranger in Ford's truck lineup and is also intended to fill the gaps left by the Focus, Fiesta, and canceled Focus Active hatch-crossover.

The vehicle's exact name is still unknown, but it could bring back the Courier moniker, which was last used here in the 1970s on a pre-Ranger rebadge of a Mazda B-Series pickup. Other possibilities include Ranchero or perhaps something connecting it to the Bronco family (its underpinnings will be similar to the Bronco Sport's, after all).

As for looks, we're told the new small Ford truck will be anything but cute. Expect it to take styling cues from both the Ranger and Bronco Sport, with an upright, blocky front end and an unmistakable truck profile. Drivetrain options

will likely be shared with the Bronco Sport, which, according to a leaked Ford document, is getting two EcoBoost engines—a 1.5-liter turbocharged three-cylinder and a 2.0-liter turbo-four. Those same engines can also be found in the mechanically related Escape crossover, where they make 180 hp and 250 hp, respectively.

The compact pickup truck will reportedly be built in Mexico, possibly at the same plant where the Bronco Sport is made. It will need a certain percentage of North American-sourced parts to comply with the U.S.–Mexico–Canada trade deal but should still be able to avoid the chicken tax that has kept many foreign-built trucks from coming state-side. **Alex Nishimoto**



Although the upcoming Ford truck and Bronco Sport will share underpinnings, we think it will adopt F-150 cues.



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Intake

Volkswagen Atlas Cross Sport

As nests empty, relieving parents of carpooling obligations, the trend is truncating the three-row jumbo SUVs that folks fled to. The latest example is VW's third-row-ectomy of the jumbo Atlas. So how does the 2020 Volkswagen Atlas Cross Sport compare with other midsize two-row utes?

Let's start by defining the competitive set: There's the Chevrolet Blazer, the Ford Edge, the Honda Passport, and the Nissan Murano. Relative to those players, the Atlas is considerably bigger.

At 195.5 inches, the Atlas Cross Sport is longer than the next-longest Murano by 2.7 inches, and it's an inch or two wider and taller than all but the Honda Passport. Speaking of Passport, the VW compares most closely with the new Honda; both utes essentially share their wheelbases with their three-row sibling, but Honda shortened the Passport's overall length by 6.0 inches, while VW only trimmed 2.8 inches off the Atlas' overhangs.

That distinction speaks volumes to the disparate missions these brands are chasing: Honda casts the Passport as an adventure-mobile, improving approach and departure angles by 1.7 and 6.8 degrees, respectively, and boosting ground clearance. It has also raised the boxy roof to lose only 4.8 cubic feet of the available luggage space behind the Pilot's rear seat.

VW is going for a longer, lower, wider, sleeker look, so ground clearance and approach angle are virtually unchanged, and departure improves by just 4.3 degrees, while that rakish rear window

FIRST DRIVE



reduces the Atlas' cargo space by 15.2 cubic feet (ending up 0.9 cube smaller than Passport).

What the Cross Sport really delivers is rear-seat legroom, as the fixed rear seat is positioned well aft of the one in the three-row Atlas, endowing Cross Sport with a whopping 2.8 inches more rear legroom. To preserve cargo area, the outdoorsier Passport only adds 1.2 inches of rear legroom. There's so much room in the back of the Cross Sport that many rear passengers' feet won't need to go under the front seat.

From behind the wheel, this VW two-row SUV feels notably wider and longer than its competition. Those hoping for a nimbler, more maneuverable, easier-to-park SUV when trading down from a three-row ute will be much better served by a Chevy Blazer, Ford Edge, or Nissan Murano. Those who like the feel and performance of their Atlas and are

smitten by the sleeker lines of the Cross Sport will find its ride quality, steering feel, and overall driving dynamics familiar. Same goes for the appearance and functionality of the cockpit, which retains the Atlas' spare, Euro-sleek aesthetic and overabundance of hard black plastic—even in top-trim models.

Those hoping to save a few bucks on fuel by ditching the third row will be disappointed by the Atlas Cross Sport. According to the EPA, the 2.0-liter front-driver does 1 mpg better in the city (21 versus 20 mpg with the same 24 highway and 22 combined ratings), and the V-6 models get identical fuel economy (17/23/19 mpg city/highway/combined for front-drive, 16/22/19 with 4Motion).

Volkswagen shareholders will be pleased the automaker saved the considerable tooling expense of all those floorpan stampings, 4Motion propeller shafts, and more. It's smart business, plain and simple.

And buyers with extremely long-legged family members will also be delighted with the limolike Atlas Cross Sport's rear seat. Others might want to compare the Cross Sport against thriftier, more maneuverable competition. **Frank Markus**

SPECS **Price** \$31,565–\$45,965
Layout Front-engine, FWD/AWD, 5-pass, 4-door SUV
Engine 2.0L/235-hp/258-lb-ft turbocharged DOHC 16-valve I-4; 3.6L/276-hp/266-lb-ft DOHC 24-valve V-6
Transmission 8-speed automatic
Curb Weight 4,100–4,400 lb (mfr)
Wheelbase 117.3 in L x W x H 195.5 x 78.4 x 67.8 in
0–60 MPH 7.3–8.5 sec (MT est)
EPA Fuel Econ 16–21/22–24/19–22 mpg
Energy Consumption, City/Hwy 160–211/140–153 kW-hr/100 miles
CO2 Emissions, Comb 0.87–1.06 lb/mile
On Sale Currently



The Atlas Cross Sport unsurprisingly sacrifices some cargo space—15.2 cubic feet—relative to its larger VW Atlas sibling.



Tesla's ability to update fundamental systems remotely has greatly increased performance years after purchase.



MIKE CONNOR

Tesla Uploads More Features to Models S, X

Tesla has pioneered over-the-air software updates for cars, continually improving cars already on the road and even adding new features. The latest, pushed out in late March and early April, make some models quicker and every model smarter.

For the performance-minded, Tesla has picked up the gauntlet thrown down by the Porsche Taycan Turbo S and uploaded an upgrade to your Model S and Model X Performance to make them even quicker. It's being referred to as "Cheetah Stance," as it uses the air suspension to lower the nose of the vehicle in launch mode, shifting the weight balance and aerodynamics to help it accelerate harder.

More critically, the update increases peak power and power available above 80 mph. To do this, Tesla says it increased the battery and powertrain's thermal endurance by a factor of three. Heat is the enemy of EV performance, forcing the computer to pull power to prevent damage to the battery. This should allow the Model S and X to do more launches in a row without losing power and speed, like a Taycan can. The power above 80 mph thing helps Teslas keep up with the

Taycan's two-speed transmission, which gives it more advantageous high-speed gearing than Tesla's single-speed.

The \$7,000 Full Self-Driving Mode option, which isn't full self-driving yet but will allow the capability later when the software catches up, took another step toward that goal. Driving a car on a freeway—where the road is divided, lanes are clearly marked, everyone's going the same direction, and exits and on-ramps are controlled—is easy for a computer. Driving in the city, with traffic, pedestrians, cyclists, and intersections, is much harder. Tesla is working on it, though, with a new feature that can detect and react to stop signs and stoplights.

As of this writing, the software is still in beta testing and only available to certain users. It's also overly cautious, requiring the driver to do things like push the throttle at a green light to tell the car it's OK to proceed. You may think this defeats the purpose, but the real purpose is machine learning: teaching the computer when it's OK to go and when it isn't. Tesla hasn't given an indication when the software will be ready for wider distribution.

Scott Evans



MT CONFIDENTIAL

A leaked production schedule for Hyundai's massive Ulsan assembly plant shows a slew of new models set to come from the South Korean automaker once the country's COVID-19 lockdown is lifted. Among the highlights: an upgraded Santa Fe with a hybrid powertrain option, hybrid and sporty N versions of the new Elantra; and an N version of the Kona crossover powered by the 250-hp 2.0-liter turbo-four from the Veloster N. Two all-new models are also penciled in for production at Ulsan. First is the redesigned Tucson, which shares its platform with the striking 2020 Sonata and takes its design cues from the Vision T concept unveiled at last year's Los Angeles Auto Show. Mainstream versions will likely share the Sonata's 191-hp 2.5-liter four-cylinder engine and eight-speed automatic transmission, with hybrid and turbo-powered variants also available. A high-performance N model is also rumored. The other newcomer out of Ulsan will be the Genesis GV70, a midsize luxury SUV sized to slot under the recently revealed GV80, sharing the G70 platform and likely its 3.3-liter twin-turbo V-6. **Daimler's all-new electric flagship, the Mercedes-Benz EQS sedan, will introduce the company's first dedicated architecture for medium to large BEVs** (code-named EVA2) later this year. EVA2 follows the now-familiar skateboard format, with a large underfloor battery pack and motors at each axle. It will underpin three more Mercedes models scheduled for launch over the next few years as part of the company's ambitious push to have 40 percent of its lineup electrified by 2025. The EVA2-based EQE sedan is expected in 2022; as the name suggests, it's intended to be the BEV equivalent of Daimler's heartland model, the E-Class. Whispers out of Stuttgart suggest the EQE will be slightly smaller on the outside than the E-Class and will have a four-door coupelike profile similar to the EQS. Interior room is said to rival that of an S-Class, and Daimler engineers are reportedly targeting a range of 400 miles. Joining the EQS and EQE will be a pair of BEV SUVs, likely to be badged GQS and GQE, each with similar performance and equipment levels as their sedan cousins, but with wagonlike styling, higher seating positions, and height-adjustable suspension.

Intake

Sir Stirling Moss 1929–2020

Sir Stirling Moss, one of the greatest racing drivers of all time, has died in London at the age of 90 after a long illness.

Britain's superstar driver of the 1950s and early '60s, Moss won 212 of the 529 races he started, including 16 Formula 1 grands prix. Fast and versatile—he would drive 84 cars in his career, competing in as many as 62 races a year—Moss was unlucky not to win the Formula 1 World Championship, finishing second four times in a row, from 1955 through 1958, and third three times, from 1959 to 1961.

He retired from top-level racing in 1962 after a testing crash at Goodwood left him in a coma for a month. Ever the perfectionist behind the wheel, he felt the crash had robbed him of the edge he needed to win.

Born in London in 1929, Stirling Crawford Moss began his career in 1948, racing tiny, 500cc-powered mid-engine Coopers. His first major international race victory came in the 1950 RAC Tourist Trophy, in a Jaguar XK120. His first F1 win was in the 1955 British Grand Prix, driving a W196 Mercedes-Benz. He was the first British driver to win his home grand prix.

The 1955 season was a highlight. Signed to the factory Mercedes team, Moss won not only the British Grand Prix but also that year's RAC Tourist Trophy, the Targa Florio, and the Mille Miglia in the 300SLR sports racer. The 1955 Mille Miglia win, in which Moss averaged just under 100 mph for the 1,000-mile race, stands as one of the greatest drives in the history of motorsport.

Even Moss himself thought it a highlight: "I think of its type—open road racing—it was the best I ever did," he said in an interview with *MotorTrend* in 2015.

When Mercedes withdrew from racing in 1955, Moss spent two seasons with Maserati, then joined the British Vanwall team for the 1958 season. Because the Vanwall car was not ready for the first race, the Argentine Grand Prix, Moss drove a Cooper Climax for privateer Rob Walker and won. It was the first victory for a rear-engine car in the modern Formula 1 era.



Moss was a sportsman in the true sense of the term. When fellow British driver and championship rival Mike Hawthorn had spun and stalled his Ferrari in the 1958 Portuguese Grand Prix on an uphill section of the track, Moss yelled at him to bump-start the car by rolling it downhill and later defended Hawthorn against disqualification by the stewards by insisting he'd been off the track while traveling the opposite direction.

Hawthorn therefore kept his six points for his second-place finish and went on to win the World Championship over Moss by just one point, even though he'd won just a single Grand Prix to Moss' four.

After retiring from top-level racing, Moss went on to run a property business with his family. A technophile, he built a house in Mayfair, London, to his own design in the 1960s that featured high-tech gadgetry such as push-button controls to run a bath at a predetermined temperature, drop a table from the ceiling for TV dinners, and hide his TV and audio system behind wooden panels. It later featured a carbon-fiber elevator made for him by the Williams F1 team.

Moss didn't stay away from racing after his retirement. He competed in the London-Sahara-Munich World Cup Rally in 1974 and shared a Holden Torana with Jack Brabham in the 1976 Hardie-Ferodo 1000 at Bathurst. He drove a factory-backed Audi in the 1980 and 1981 British Touring Car Championship.

Moss also worked as a brand ambassador for various automakers, including Chrysler Australia and Jaguar. His longest association was with Mercedes-Benz, with which he was a regular visitor to the Pebble Beach Concours d'Elegance and other classic car events.

Sir Stirling is survived by his third wife, Susie, and two children. "He died as he lived, looking wonderful," Lady Susie told Britain's *Daily Mail*. "It was one lap too many. He just closed his eyes."

Angus MacKenzie

REAR VIEW

From the *MotorTrend* Archive ...



50

JULY 1970

PRICE: \$0.50

Our July 1970 cover was dedicated to our 1971 new car preview, with the 1971 Hurst SSJ Grand Prix (flanked by Miss Hurst Golden Shifter) snagging the cover. The rebadged Pontiac Grand Prix

"personal car" took top billing, but far more interesting stories were inside. We had a feature on the Lamborghini Jarama—Lambo's last front-engined car—and a European sport coupe first test package featuring the Alfa Romeo Berlina, BMW 2002, and Fiat 124S.



30

JULY 1990

PRICE: \$2.95

Well this was a poster-level cover. It features a Ferrari F40, Porsche 959, Lamborghini Diablo, and Lotus Esprit Turbo SE racing in what we're sure was a nerve-wracking photoshoot. The story wasn't a comparison, but it did highlight benchmarks that the coming McLaren F1 would have to clear to become the world's first hypercar.



10

JULY 2010

PRICE: \$4.99

It was the Mustang versus the world in our July 2010 issue. In the V-6 class, the new 3.7-liter Mustang took on the Chevrolet Camaro RS, Dodge Challenger SE, and Hyundai Genesis Coupe. In the V-8 class, meanwhile, the new 5.0 Mustang GT took on the Camaro SS and Challenger SRT8. The V-6-powered Mustang lost to the Genesis, but the 5.0 vanquished the Chevy and Dodge.

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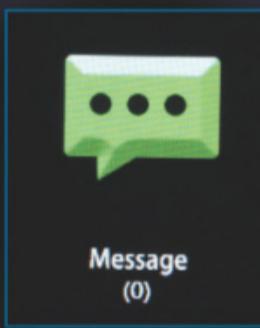
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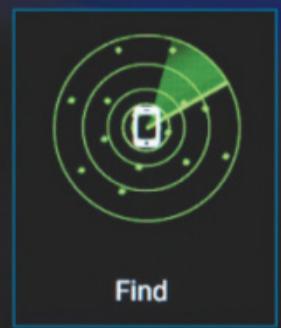
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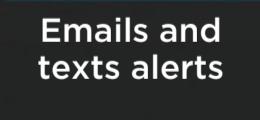
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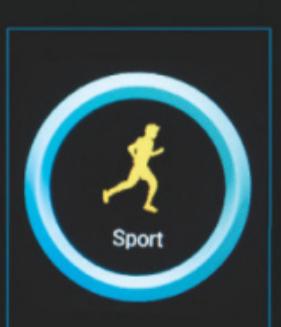
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Frank Markus

Technologue

So long, spark plugs. Low-temperature plasma ignition may be the future.

When you boil it down, improving average fuel economy is super simple: Burn less fuel in the cylinder when cruising. Toward that end, engine developers have toiled to make lean mixtures work since way before Chrysler's Electronic Lean-Burn System of the mid-'70s. But getting such mixtures to ignite via the spark plug (as in engines since the Model T) has been problematic. Now Torrance, California, startup Transient Plasma Systems is proposing a low-temperature plasma ignition system that it claims can replace the spark plug.

Here's how traditional spark plugs work: Energy generated by a coil builds across the spark plug's air gap until the energy potential ionizes gases in the gap. This causes the gases to become conductive, resulting in a current spike and a momentary flash of hot plasma—like a tiny lightning bolt. A minuscule percentage of the energy used to create that spark ends up thermally igniting the fuel mixture, which then must propagate throughout the cylinder.

TPS proposes employing a different kind of plasma to initiate combustion in a completely different way. Leveraging recent advances in solid-state high-voltage switching capability, voltage similar to that built up in an old-fashioned coil is summoned in a matter of 10–50 nanoseconds and dispersed not across a discrete gap but rather in streamers and sheets between an electrode and the plug's peripheral housing.

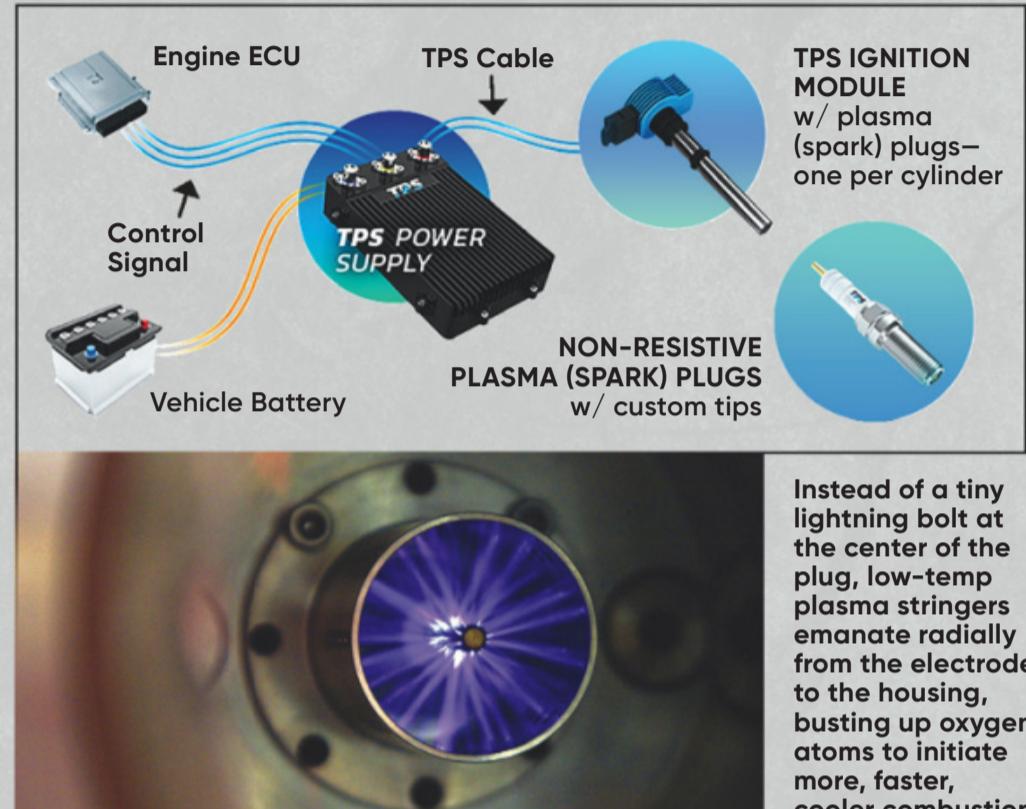
Megawatts of power generate this low-temperature plasma, but at millijoules of energy. Fully half of that energy gets expended, shattering the bonds holding oxygen molecules together and accelerating the individual oxygen atoms so that they attack and ignite the fuel far more quickly and at far lower temperatures.

Testing on a research engine burning ethylene at Ohio State University found that such ignition systems "demonstrated that chain reactions of radicals generated by the plasma reduce ignition time by up to two orders of magnitude and ignition temperature by up to [540 degrees]," according to a paper published by *Plasma Sources Science and Technology*. "These results provide additional evidence of the non-thermal nature of low-temperature plasma-assisted ignition."

Let's unpack that result. The super-high-speed ignition means less waiting for the flame front to propagate across a dilute mixture and a greater likelihood of burning all the fuel. The lower combustion temperature means far less formation of NO_x and far less waste heat generated—so more of the fuel energy ends up propelling the vehicle.

The system has since been tested by Argonne National Labs in a Cummins I-6 natural-gas engine, where it demonstrated improved brake thermal efficiency, reduced

TPS proposes a different kind of plasma to initiate combustion in a new way.



CO and NO_x emissions, and an ability to run lots of exhaust-gas recirculation.

Although TPS ignition can ignite air-fuel mixtures as lean as 25:1, that much excess air still complicates emissions control, so the goal is to run stoichiometric mixtures diluted by lots of excess inert exhaust gases. (It's worth mentioning, however, that TPS is at work on another application of this technology to zap particulates and bust up NO_x like it does O_2 .)

Fear not, performance fans. The TPS ignition can also boost power. Speedier combustion enables reduced spark

advance, so less combustion happens while the piston is still moving up in the cylinder, leaving more of the combustion pressure to turn the wheels.

Here's what I like most about TPS ignition: The system drops right in, replacing today's coils and spark plugs, and its benefits are additive to current technologies like turbocharging and hybridization.

According to TPS co-founder and CEO Dan Singleton, fuel economy benefits should run between 10 and 15 percent across a complete city driving cycle, and the price is now poised to undercut what similar technologies promising such gains cost. His company recently completed an \$8.5 million Series A funding round and is in talks with "several OEs in Europe, Asia, and the U.S."

There's plenty of development and reliability work yet to be done, and these plasma plugs cannot tolerate a resistor core, so other shielding will be required to prevent radio interference. But I'm bullish on plasma's prospects for extending the combustion engine's lease on life. ■

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Interview

Jost Capito

Jost Capito has accomplished an admirable list of successes in his 36-year career. The head of Volkswagen's R performance brand spent his younger years racing motorcycles before attending the Technical University of Munich. With his competitive racing background and engineering degree, Capito's talents afforded him opportunities to develop legendary road-going performance vehicles at companies such as BMW, Ford, and Porsche. He also took leading roles at factory-backed race outfits, such as the Sauber Formula 1 team and Volkswagen Motorsport division. We spoke with Capito, who shared his thoughts on his past, present, and future work.

How has your motorsports background helped you develop road-going performance cars? I had my first enduro race on my 16th birthday. I got the driving license at 3 a.m., and I started racing at 8 a.m. Then in '85 and '86, I did the Dakar Rally with my father in a Unimog. We won the truck category in '85. I'm a motorbike guy, which is always good for car development. If you can translate the motorbike feeling into a car, then I think you get a great performance car.

Through your career, which vehicle or racing project do you feel you managed to execute from concept to reality with the least compromise? That's difficult to say. I think the rally program at Volkswagen was unbeatable. Starting



“IT'S A REALLY HUGE HONOR TO DO A GOLF PERFORMANCE CAR. I THINK IT'S LIKE THE CROWN OF MY CAREER.”

from scratch for a manufacturer with a brand-new team in WRC and winning the championship four times in a row—I think that is just amazing. That's from the motorsport side. From the car side, I think it's like when you have children: You love them all the same. Still, I really love the second-gen Focus RS. The Mustang GT500 and also the Raptor were fantastic programs. And now there's the new Golf R that's coming out this year, which I think is my masterpiece.

Managing Director, Volkswagen R brand

How does the new Golf R improve upon the prior model? I have to tell you that, for me, it's a really huge honor to do a Golf performance car because I had an original Golf when I went to university. And after that, I had a second-generation Golf GTI. And now being able to deliver a Golf R model, I think it's like the crown of my career. I can't tell you too much about what we put into the car, but there are a lot of small improvements, and the overall car is a real driving machine.

Are we going to see an expansion of the R brand in the United States? We would like to have more [R] models in the U.S., but they have to be ... in the right price range. I personally would like to see the Golf R [wagon in the U.S.] because that is really a favorite of mine.

What's the strangest moment you've had in your career? I don't know if I should tell you this story. The strangest one we did was at Ford during the development of the first-generation Focus RS. There was the last test car that had to be scrapped, and we said we need to have some fun with it before we scrap it. So we put nitrous injection on it, went to an old, empty airfield, and boosted it up and up until the spark plugs just blew off the engine. That was good fun.

Do you happen to own any of the vehicles you helped develop? I have none, actually. I have more motorbikes than cars. I would really love to have one of each, though. I would love to have the first-generation M3. I would love to have the second-generation Focus RS, the Raptor, the Mustang Shelby GT500, the Touareg R, which I think is a fantastic car. And, of course, the new Golf R.

What project would you most like to tackle next? That's a difficult question. I think it's what we're looking at now: to do a really fantastic affordable electric performance car that people love. It's a big challenge. **Greg Fink**

Expect the new Volkswagen Golf R to make its debut by the end of this year, with sales beginning in late 2021.



Your Say...

Lean and Green

As a 65-year-old gearhead who grew up in the era when MGBs, BMW 2002s, and Porsche 356s were the happening vehicles, I've experienced a whole lot of change in the world of cars since the early '70s. Most recently I've become a convert to the Tesla religion as the proud owner of a long-range Model 3 Dual Motor. The thing is simply amazing. Maybe even better than a 2002tii.

Recently there has been a whole lot of pressure on the print media, and those who haven't adapted have been dropping by the wayside. Even old gearheads like me aren't stuck in the past. We don't mix politics with propulsion. We can accept progress as progress.

Which brings me to *MotorTrend*. To be totally honest, *MotorTrend* was a distant third in my list of car mags during my formative years. But things have changed. *Road & Track* is all but gone, *Car and Driver* should really rename itself *Fossil Fuel Car and Driver*, but *MotorTrend* successfully transitioned with the times.

The April issue is the best ever. Instead of focusing on cars of little interest to most and cars that I wouldn't even consider buying at this time in history (and I'm not alone), *MT* has immersed itself in the future.

All I can say is way to go!

Dan Grassetti
via email

I appreciate you saying what some in the automotive media will not and for heading up a green tech-focused issue. It is disappointing the way some gearheads are acting like green tech is going to end all petrol vehicles and take away their joy. Some go as far as to attack Teslas and vandalize charging stations, as if that is going to stop the changes in the market.

Personally, I believe increased demand for EVs will prolong petrol power, because less fuel demand means more to go around for those who need or want it. Yes, development will slow, but in our convenience-oriented cultures, the EV is going to become the vehicle of choice. No more oil changes, no more trips to the gas station, just less maintenance. With EV ranges extending every year along with charging stations popping up all over, range anxiety is going away. We may even eventually have solar panels on cars



Reader on location

This month's reader on location, **Rick Sanford III**, writes to us, "My wife and I recently enjoyed our 25th anniversary with a two-week trip to Ireland. We stayed a couple of nights at Ashford Castle near Cong where *The Quiet Man* was filmed. I have been an avid reader of *MotorTrend* since I was in high school back in the '80s and love the diverse articles and automotive coverage. The *MotorTrend* Channel only enhances the experience. I had a copy of the magazine with me, as I do on all of my trips. We needed a GT500 to blaze across the bridge into this castle parking lot to put alongside the many Range Rovers and Land Cruisers."

that will help charge, minimizing trips to charging points.

You and your team's willingness to focus on green is going to keep my *MT* subscription going.

Change is part of life, and I hope *MT* keeps covering those changes even if some do not like to hear about them.

Kevin Theobald
via email

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Sir, I received my copy of the April 2020 issue today. Seeing the lead-in comment at the top—The "Green" Issue—I knew before reading it that I wasn't going to like it. I like my green on grass, trees, bushes, and vegetables—not cars. I don't want to see electric cars and trucks at all (and I'm not particularly interested in hybrids, either), and I certainly don't want to read articles like "Science Will Find a Way to Zero-Carbon Transportation" in my car-guy magazine.

If you want to cover electric vehicles, then start "E-Motor Trend," or whatever else you want to call it. I have zero interest in it. If you continue on this content path of electric whatever, then I will soon be canceling my subscription.

Robert King
via email

Thanks for the kind words, Dan and Kevin. Robert, we'd hate to lose you, but just like we covered turbine- and atomic-powered cars in our formative years, we'll cover all automotive technologies, whether it be gas, electric, or flux capacitor. We think this issue might spark your interest again.—Ed.

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**Glenna R.,
Dallas, TX**



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FUTURE

Everything seems to be changing by the hour as the global health crisis completely upends the way the world works, but while automakers are making face masks and ventilators today, the core of the business—designing and engineering cars to (someday) sell—continues apace. It may be happening in home offices, but these machines are just too complicated and important to completely shut down research and development and restart it later. Plus, suppliers have been contracted to make everything from shock absorbers to stamping dies—and they need to get paid.

The cars on sale today and coming to a dealer near you in the next year have been in development for the past five to 10 years. The ones you'll be able to buy a few years from now are already deep in the development process. Cars you won't be able to buy for the better part of a decade are already being approved, with a design

2021
& BEYOND

WORDS
MOTORTREND
STAFF

freeze in progress. This industry runs on a multi-year cycle, so even when it's disrupted, there's always more on the way. One note: Near-term arrival dates are subject to change based on the duration of quarantines in various regions.

From the SUVs, trucks, and cars already confirmed for production when the factories reopen to those waiting to have the sheet pulled later this year and the ones still in the concept phase, we have more than 50 of the most interesting, exciting new vehicles coming to your streets and driveways. Endless SUVs, radical trucks, cars of the future, and all manner of cleaner, safer technology are coming, and you get the goods on all of it.



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CARS!

What's Now SUVs

2021 Ford Mustang Mach-E

What's New: The latest addition to the Mustang model line is a battery-electric four-door SUV. Really. Although the Mach-E looks nothing like any Mustang before it, the Blue Oval's EV certainly packs the straight-line punch to woo pony car fans. The most powerful model—the nearly 460-hp three-motor Mach-E GT—aims to scoot from 0 to 60 mph in 3.5 seconds. The slinky crossover relies on one of two available battery packs to power its standard rear-axle motor and optional front-axle motor: a 76-kW-hr Standard Range pack or a 99-kW-hr Extended Range setup. Ford estimates a maximum driving range of 300 miles between charges for rear-drive Mach-Es equipped with the Extended Range battery, though a heavy right foot will surely drag down that distance. **What's Not:** Save for its Mustang nomenclature, the Mach-E shares little else with any Ford before it. **When:** Late 2020 **How Much:** \$44,995



Genesis GV80

What's New: At long last, the Genesis brand's first SUV is launching for the 2021 model year. The GV80 is a midsize, rear-drive-based SUV with seating for up to seven. The GV80 will be plenty luxurious in base form, offering extra-posh features such as diamond-stitched leather, ash wood trim, augmented reality navigation, and more at a competitive price. Engine choices for the U.S. will include a 2.5-liter turbocharged I-4 making 300 hp and a 3.5-liter twin-turbo V-6 good for 375 hp. Both engines will come mated to an eight-speed automatic transmission. **What's Not:** The GV80 is all-new from the ground up, but the design hasn't changed much from the excellent concept we first saw in 2017. **When:** Summer 2020 **How Much:** \$49,925





Cadillac Escalade/Escalade ESV

What's New: Cadillac shares its stretched, independently suspended architecture, 6.2-liter V-8 gas and I-6 diesel engines, and 10-speed transmission with the Tahoe/Suburban/Yukon. It justifies its hefty price premium with such tech treasures as 38 inches of curved OLED display screens, augmented reality navigation, Super Cruise, night vision, and AKG Studio Reference 36-speaker sound. New for 2021, a Sport model features blackout trim. Cadillac offers eight interior color themes that can be decorated with myriad woods and leather seat patterns. Standard-wheelbase versions will launch late this year, with the Suburban-size ESV following in early 2021. **What's Not:** Platinum remains the *ne plus ultra* trim grade. **When:** Late 2020 (ESV early 2021) **How Much:** \$77,500–\$102,000 (est)

Chevrolet Tahoe/Suburban

What's New: Nearly everything, but most important: an independent rear suspension. This change, plus 4.9 and 6.8 inches added to the Tahoe's wheelbase and length (Suburban adds 4.1 and 1.3 inches) aims to wrest dimensional and ride/handling superiority from Ford's Expedition/Max. Fourth-gen magnetic ride control shocks are optional, with upper trims getting height-adjustable air suspension, too. There's a 270-hp, 460-lb-ft 3.0L I-6 diesel option, and all models get a 10-speed automatic. The fancier High Country helps keep the Chevy faithful from straying to Yukon Denalis. **What's Not:** The 5.3L and 6.2L V-8s continue, but with upgraded cylinder deactivation; 2500 and 3500 variants are dropped. **When:** Mid-2020 **How Much:** \$50,295–\$70,895 (Tahoe), \$52,995–\$73,595 (Suburban)



Suburban

GMC Yukon/Yukon XL

What's New: To everything mentioned in Chevy's Tahoe/Suburban entry, add GMC's AT4 off-road-optimized package, which builds on Chevy's Z71 hardware, for both Yukons. It adds Active Response 4WD electronics plus an electric-locking limited-slip rear differential, red tow hooks, and more luxurious interior trim. Denali models (60 percent of sales) get a unique dash with an integrated touchscreen—rather than one perched on top. There are also real wood inserts, a 15-inch color head-up display, four color themes, and a GMC-exclusive power-sliding center console with a "safe drawer." **What's Not:** The level of exterior bling on Denali models. **When:** Early summer 2020 **How Much:** \$51,995–\$54,595 (Yukon), \$54,695–\$75,395 (XL)





Ford Bronco Sport

What's New: The Ford Bronco Sport is the rugged cousin to the Ford Escape, which it shares underpinnings with. The unibody, off-road-focused compact SUV is front-wheel-drive based, but

Ford considers it part of the Bronco family, and as such it shares some styling cues with the larger, body-on-frame Bronco. The Bronco Sport is expected to have the 180-hp 1.5-liter turbocharged three-cylinder as its base engine and an optional 250-hp 2.0-liter turbocharged four-cylinder engine, both mated to an eight-speed automatic transmission. All-wheel drive will likely be standard. The look is boxier and more upright than the rounded, urban Escape—with shorter overhangs, underbody protection, a two-piece liftgate, chunky roof rails, and black plastic fenders. In keeping with Ford's overall plans, there will be a hybrid or plug-in hybrid version.

What's Not: It shares its front-wheel-drive platform and its engines with the Ford Escape. **When:** Late 2020 **How Much:** \$30,000 (est)



Photo: Brian Williams/SpottedBilde



Nissan Rogue

What's New: Nissan's best-seller is moving to a new platform shared with Renault and Mitsubishi to keep it among the top 10 best-selling vehicles in America. What you'll see and touch has been brought into line with Nissan's latest styling language inside and out. We expect Nissan's latest 2.5-liter inline-four under the hood driving the front (or all four) wheels, and there's also the possibility Nissan will put its clever VC-Turbo inline-four under the hood of a sporty model. No matter what, expect a continuously variable transmission.

Inside, look for an optional digital dash and a 9.0-inch infotainment screen borrowed from the new Titan.

What's Not: Expect component sets and a fair number of its parts and features to be shared with other Nissan products. **When:** Late 2020 **How Much:** \$27,000 (est)

Illustration: Avanvari

Volkswagen Tiguan

What's New: Volkswagen's global best-seller is due for a refresh, and you'll recognize it right away with its sportier nose job and all-LED external lighting front and back. Inside, the Tiguan gets a revised steering wheel, borrowed from the larger Atlas Cross Sport, and VW's latest infotainment system with over-the-air update capability. Also available: multicolor interior ambient lighting to set the mood. **What's Not:** Everything else. Volkswagen is considering a plug-in hybrid drivetrain option for the next-generation Tiguan, but for now, it sticks with a turbocharged four-cylinder engine and eight-speed automatic. **When:** Fall 2021 **How Much:** \$26,000 (est)



Alfa Romeo Tonale

What's New: Alfa needs to expand its lineup, and fast. SUVs are hot, so next up is the subcompact Tonale to slot under the compact Stelvio. We expect it to be front-drive based with the option of all-wheel drive, and it will use FCA's small SUV architecture. The Tonale Concept was powered by an unspecified plug-in hybrid drivetrain, which we think could be the 1.3-liter turbo-four in front and electric motor in the rear used by the Europe-only Jeep Renegade plug-in hybrid, which makes 240 hp total. We also think the Alfa will get a non-hybrid option, probably a 2.0-liter turbocharged I-4. **What's Not:** The Tonale will share a platform and likely powertrains with other FCA small crossovers, such as the Jeep Renegade.

When: Early 2021 **How Much:** \$35,000 (est)



Audi E-Tron Sportback

What's New: Although it's a fastback version of the E-Tron SUV, with a new roof, new rear quarter panels, and a new tailgate, the E-Tron Sportback has a more carlike presence, like a tall hatchback rather than an SUV trying to look sporty. The Sportback will benefit from a number of technical upgrades from Audi designed to boost range. The front motor will disengage under normal driving, the 95-kW-hr battery's thermal management system has been made more efficient, and the battery's usable capacity has been increased to 86.5 kW-hr. As with the regular E-Tron, the well-equipped Sportback will be available in Premium Plus and Prestige trim levels. **What's Not:** The powertrain is the same as the E-Tron, with a 187-hp, 231-lb-ft motor at the rear and a 168-hp, 182-lb-ft motor up front. Total output is 355 hp and 413 lb-ft; overboost mode gives 402 hp and 490 lb-ft for 8 seconds. **When:** 2021 **How Much:** \$80,000 (est)



Volkswagen ID 4

What's New: Volkswagen has learned Americans aren't much interested in hatchbacks, which is why the first of its all-electric MEB-platform vehicles to arrive here will be an SUV. The ID 4 is about the size of a Tiguan, but the interior is much roomier. The MEB architecture follows the now-familiar skateboard platform, with a large battery pack between the wheels and motors at the axles. The base ID 4 is likely to be a single-motor, rear-drive model, with a GTX version offering two motors, all-wheel drive, and more performance. Top-end ID 4s are expected to have a range of close to 300 miles. **What's Not:** The interior hardware is shared with the ID 3 hatch recently launched in Europe, with a compact digital instrument panel in front of the driver and a large centrally mounted touchscreen for infotainment and HVAC functions. **When:** 2021 **How Much:** \$35,000 (est)



Kia Sorento

What's New: Completely redesigned, the Sorento receives a new windswept exterior design. Kia also upgrades the interior with a large screen and sleek controls. Expect ride quality to improve now that the SUV sits on a new Optima platform. New engine options should give the Sorento an extra pep in its step. A 1.6-liter turbo-four works with an electric motor to produce 227 hp and 258 lb-ft of torque, and a 2.5-liter turbo-four makes 277 hp and 311 lb-ft. **What's Not:** Some styling cues reference the Telluride, including the vertical taillights. **When:** Late 2020 **How Much:** \$30,000 (est)



Volvo XC40 Recharge

What's New: The XC40 Recharge marks the debut of Volvo's first-ever all-electric powertrain. The Recharge shares Volvo's Compact Modular Architecture with the regular XC40, but there's a liquid-cooled 78-kW-hr battery pack under the floor and a motor on each axle. Volvo claims 402 hp and 487 lb-ft of torque and a 0-60 time of 4.9 seconds. As with all new Volvos, top speed will be limited to 112 mph. Volvo does its own battery research and development in-house and says the available capacity of the battery pack will be 75 kW-hr, which should easily give the XC40 Recharge an EPA range of more than 200 miles. **What's Not:** Apart from the blanked-off grille, the XC40 Recharge looks just like a regular XC40. That's no bad thing, as Volvo's entry-level SUV is one of the most stylish in the segment. **When:** 2021 **How Much:** \$55,000 (est)

Polestar 2

What's New: Polestar 2 is the second model for the brand that spun off from Volvo to concentrate on performance electric vehicles. Polestar 1 was a plug-in hybrid, but Polestar 2 is a mainstream all-electric premium four-door sedan to battle the Tesla Model 3. The 2 will have a range of about 275 miles with the 75-kW-hr battery in the floor. Front and rear motors provide a combined output of 402 hp and 487 lb-ft of torque. A vegan interior is optional, the infotainment system uses an Android operating system to run Google automotive services, and the advanced tech allows the car to try to anticipate the occupants' needs. **What's Not:** It features an adaptation of the Volvo CMA architecture used by the Volvo XC40 and the Volvo 11-inch infotainment screen. **When:** Summer 2020 **How Much:** \$61,200



Fisker Ocean

What's New: Longtime BMW and Aston Martin designer—and creator of the ill-fated Fisker Karma—Henrik Fisker has bounced back with a green-friendly, five-passenger EV crossover called the Ocean. The Ocean checks all the contemporary EV boxes—up to 300 miles of range, battery capacity north of 80 kW-hr, base 2WD and available AWD, a cool 16-inch center-mounted touchscreen with a haptic touchpad, and a charging partnership with Electrify America. Fun features? A novel multilink rear

suspension, a roll-down rear-hatch window for carrying long objects, and karaoke words displayed on the head-up display. The Ocean will be significantly composed of recycled materials such as retrieved ocean plastics and old fishing net. **What's Not:** Although the Fisker name is familiar, everything about the Ocean is new, including the company behind the name. **When:** Summer 2022 **How Much:** \$37,499



What's Now Trucks and Vans

Chevrolet Colorado/GMC Canyon

What's New: Updated exterior designs are in store for the refreshed trucks. The Colorado's previous base trim has been discontinued, making the work truck the new entry model and raising the truck's starting price. On the Canyon, the AT4 trim replaces the All-Terrain, and the Denali receives minor updates, including a new grille design and interior color theme. **What's Not:** Mechanical bits stay the same. Engine options will continue to include a 2.5-liter four-cylinder, a 3.6-liter V-6, and a 2.8-liter turbodiesel I-4. **When:** Late Spring 2020 **How Much:** \$26,395



Colorado ZR2



WHAT'S NOW



Chrysler Pacifica

What's New: A new all-wheel-drive option, the Pinnacle trim level, front and rear styling revisions, and a major upgrade to the speed and capability of the Uconnect system highlight this midcycle refresh. Available only on gas models, the AWD system preserves Stow 'N Go seating and can idle the driveshaft to save fuel. Pinnacle models get opulent quilted leather seats and pillows, a suede headliner, and platinum chrome exterior trim. Uconnect 5.0 is five times faster and features Alexa integration plus a higher-resolution 10.1-inch screen that can mirror two Android or Apple phones. **What's Not:** The powertrains remain the same, as does styling on lower-spec Voyager models, which replaced the Dodge Grand Caravan. **When:** Fall 2020 **How Much:** \$35,500–\$52,000 (est)



Honda Odyssey

What's New: You'll see numerous safety, technology, and design upgrades. With a redesigned front fascia and grille and new housings for the foglights, the Odyssey is receiving a pretty extensive midcycle upgrade. The second-row seats can now fold flat (a packaging boo-boo now fixed), allowing more room for larger objects. The Odyssey is also getting a new rear-seat reminder that works with the CabinWatch camera to alert drivers of what still resides behind them when they turn off the engine. As with all recently updated Hondas, Honda Sensing is standard on all 2021 Odysseys. **What's Not:** The engine, platform, and infotainment system are the same. All Odysseys will continue to be powered by a 3.5-liter V-6 with 280 hp and 262 lb-ft of torque. A 10-speed automatic will continue to send power to the front wheels. **When:** Fall 2020 **How Much:** \$33,000 (est)

What's Now Cars

Ferrari Roma

What's New: Roma is the first car to come off an all-new modular vehicle architecture that will eventually underpin next-gen versions of the Portofino and GTC4Lusso, as well as the Ferrari Purosangue SUV. This architecture has been designed from the outset to accommodate a plug-in hybrid powertrain, though the Roma will launch only with internal combustion engine power. The 3.9-liter twin-turbo V-8 under the Roma's hood makes 612 hp and 593 lb-ft, enough to scoot it from 0 to 60 mph in about 3.2 seconds, and drives the rear wheels through an eight-speed dual-clutch transmission. Ferrari claims the best weight-to-power ratio in the class. The Roma will feature the latest version of the company's excellent Side Slip Control, with a drift mode that uses brake pressure to adjust the yaw angles. **What's Not:** The engine is an upgraded version of the V-8 used in the Portofino and GTC4Lusso T, and the transmission comes from the SF90 Stradale. **When:** 2020 **How Much:** \$230,000 (est)



Honda Civic

What's New: Everything. If you take a look at previous life cycles, the Honda Civic has been replaced roughly every five years—which means we should get the new one this fall. We expect the Civic's 11th generation to be completely redesigned for the 2021 model year, with new styling and technology and upgraded powertrains. Given the popularity of the coupe and hatchback, we think Honda will continue to offer those body styles, along with the popular four-door sedan. Expect to see the traditional trims first, followed by the performance-oriented Si and Type R in later year models, as well. **What's Not:** It's likely we'll see at least one engine carried over from the current model and parts shared with other Honda products. **When:** Late 2020 **How Much:** \$22,000 (est)



Hyundai Elantra

What's New: The new Elantra continues Hyundai's design revolution with its odd new mug, lots of triangular themes, and an all-new compact car platform underpinning it. In true Hyundai fashion, the 2021 Elantra is available with an overload of tech features, including two 10.3-inch displays, wireless Apple CarPlay and Android Auto integration, and phone-as-key capability. For the first time, a hybrid model joins the lineup, and it brings fuel economy of more than 50 mpg. Expect an N-Line and full-fledged N model to follow the standard Elantra and the hybrid. **What's Not:** The base 2.0-liter I-4 and CVT carry over from the previous-generation Elantra. **When:** Fall 2020 **How Much:** \$19,000 (est)



What's New: Underpinned by a new Genesis-exclusive RWD platform shared with the GV80 SUV, the second-generation G80 returns with an assertive new look. Two new turbocharged engines, also shared with the GV80, offer 300 hp or more, powering the rear wheels (or all four). Step inside, and you're greeted with a minimalist yet stylish design highlighted by the infotainment system's massive 14.5-inch screen. **What's Not:** The standard eight-speed automatic transmission in the 2021 Genesis G80 is an updated version of the same unit found in the G70 and G90. **When:** Summer 2020 **How Much:** \$49,000 (est)

Mercedes-Benz E-Class

What's New: It's basically a refresh of the current E-Class, with a new grille and front bumper, a new hood with twin power domes, new LED rear lights and rear bumper, and the latest generation of the MBUX user interface. The 3.0-liter turbocharged V-6 that powers today's E 450 is gone, replaced by the 3.0-liter turbocharged mild hybrid inline-six that produces the same 362 hp and 369 lb-ft of torque. And the plug-in hybrid E 350e sedan joins the lineup with a powertrain composed of the 2.0-liter turbo-four from the E 350 augmented by a 120-hp electric motor that contributes to a combined output of 315 hp and 516 lb-ft of torque. **What's Not:** The entry-level 2.0-liter turbo-four with 255 hp and 273 lb-ft is carried over in U.S. E-Class models. **When:** 2020 **How Much:** \$55,000 (est)



BMW 4 Series

What's New: Yes, they're really going with that grille. Make peace with it, because BMW isn't backing down. Behind it, the 4 Series will be nearly identical mechanically to the 3 Series. For the U.S., this means turbocharged gasoline four- and six-cylinder inline engines with eight-speed automatic transmissions and rear- or all-wheel drive. The M4 is expected to use the new twin-turbo inline-six from the X3 M. The manual transmission is likely dead for this market.

What's Not: Body styles are expected to remain the same: coupe, convertible, and four-door Gran Coupe hatchback.

When: Late 2020 **How Much:** \$45,000–\$70,000 (est)



Acura TLX

What's New: The second-generation Acura TLX is getting a makeover to match the brand's emphasis on performance. Previewed by the sexy Type S concept in 2019, the new TLX showcases a new design direction with a longer nose and dash-to-axle ratio. The luxury sport sedan will also see the return of a Type S model, which will come with a new turbocharged V-6 and the latest version of SH-AWD. **What's Not:** Despite its more cab-rearward proportions, the Acura TLX will continue to ride on a front-drive-based platform. **When:** 2021 **How Much:** \$35,000 (est)



Jaguar XJ

What's New: The last Jaguar XJ sedan powered by an internal combustion engine rolled off the line in 2019, ending 51 years of continuous production. Replacing it is an all-new, all-electric flagship that will be styled more conventionally than the I-Pace, with a low-slung sedan profile, though it will have a large rear hatch instead of a conventional trunk. The new car won't share its underpinnings with the I-Pace, either, but will be built on Jaguar's new Modular Longitudinal Architecture, which is designed to accommodate mild hybrid and plug-in hybrid powertrains in addition to a BEV powertrain. Top-spec models will be equipped with a 100-kW-hr battery and four motors developing a total of 800 hp. **What's Not:** Everything else is new, but Jaguar's flagship retains the XJ name. **When:** 2021 **How Much:** \$90,000 (est)

Toyota Mirai

What's New: Every beautiful inch of this car is thoroughly (and thoughtfully) reimaged and designed (a word that scarcely applied to its predecessor) to appeal to a vastly broader audience and command a higher price tag. Longer, lower, and wider (by about 3 inches each), it rides on new rear-drive architecture and 20-inch rolling stock. We're promised unprecedented driving dynamics apropos of the Lexus-look four-door-coupe styling. Expect a quieter cabin, a 12.3-inch infotainment system, a 14-speaker JBL sound system, and comfortable seating for five. Slicker aerodynamics, improvements in efficiency of the next-gen fuel cell stack, and a larger hydrogen tank will extend the driving range of this bigger, faster, better-handling car to about 400 miles.

What's Not: The name, which means "future" in Japanese. **When:** Late 2020 **How Much:** \$60,000 (est)



What's Next SUVs

FUTURE CARS

Cadillac Lyriq

What's New: The Cadillac Lyriq is an electric midsize crossover with a long wheelbase, wide stance, fastback roof, big air inlets, body-flush door handles, and 23-inch wheels—at least on the concept. The traditional grille is replaced with backlit lines in a precision pattern with Cadillac's iconic crest between vertical headlights. There are vertical taillights beneath an upper set of lights, called a "sail tail," that start behind each D-pillar and flow into the directional lights on the tailgate. It will be Cadillac's first pure EV, using GM's BEV3 dedicated electric vehicle architecture and Ultium fast-charging batteries. All-wheel drive will be available. The five-passenger vehicle has a 34-inch curved LED touchscreen that dominates the dashboard. **What's Not:** It takes its styling cues from the Cadillac Escala concept. **When:** 2022 **How Much:** \$75,000 (est)



Cruise Origin

What's New: The Cruise Origin is a boxy, six-passenger, electric, autonomous ride-hail van developed by Cruise in collaboration with General Motors. The robotaxi has two big sliding doors and a low load floor for easy access. The six passengers sit facing each other, with room for their luggage. There is no driver; sensors, cameras, radar, and lidar assess the surroundings and make the driving decisions. The Origin uses GM's BEV3 dedicated electric vehicle architecture and likely GM's Ultium fast-charging batteries. It will be a commercial vehicle only, for use in ride-hail services, with plans to also build a delivery van. **What's Not:** Everything is new.

When: 2022 **How Much:** \$50,000 (commercial sale only)

Jeep Wagoneer/Jeep Grand Wagoneer

What's New: FCA is going all-in on full-size three-row SUVs with the Jeep Wagoneer and Jeep Grand Wagoneer. The former, designed to be more mainstream, will go up against the Tahoes and Expeditions of the world. The latter will be a luxury flagship for the Jeep brand, set to square off against the revitalized Escalade and Navigator. Expect the Jeep's unique selling proposition to be exceptional off-road capability and a plug-in hybrid powertrain. Here's hoping for the return of wood paneling, too. **What's Not:** If the modified Ram 1500 test mules that frequently pass by our Los Angeles headquarters are any indication, the Jeep Wagoneers will share much with our 2019 Truck of the Year. The two Wagoneers will be built on a modified Ram 1500 platform in Michigan with a ride-enhancing independent rear suspension. Expect a 3.6-liter V-6 and 5.7-liter V-8—likely both with emissions-reducing eTorque motors—and an eight-speed automatic to be borrowed from the Ram, too. **When:** Late 2021 **How Much:** \$50,000 (Wagoneer, est); \$75,000 (Grand Wagoneer, est)



Illustration: Avaryvori

Chevrolet Bolt EUV

What's New: For the 2022 model year, Chevrolet will expand the Bolt lineup to include the new Bolt EUV, a larger, more SUV-like Bolt variant that is front-drive only. The wheelbase is 3 inches longer for more room in the back seat. Overall the vehicle is 5 to 6 inches longer. The look is more upright and in line with Chevrolet's latest styling language. It will be the first non-Cadillac to get Super Cruise, the hands-free highway driving system. It also has a push-button gearshift and a button for one-pedal driving. Also available: a sunroof, unlike in the standard Bolt. **What's Not:** The new EUV rides on the same BEV2 platform, with the same 66-kW-hr batteries as the current Bolt EV, not GM's new BEV3 dedicated EV architecture or Ultium battery system for longer range and faster charging. **When:** 2021 **How Much:** \$41,000 (est)



Hyundai Tucson

What's New: The Hyundai Vision T Concept seen here is essentially the next-generation Tucson, introducing the brand's future SUV design language. Along with a new platform, new powertrains include a hybrid and possibly a sporty N-Line model with the same 2.5-liter turbo I-4 that's in the Sonata N-Line. Expect plenty of driver assistance features to come standard. A huge 10.3-inch touchscreen and 12.3-inch digital gauge cluster should be on the menu, too. **What's Not:** Hyundai's user-friendly infotainment system remains. That's a good thing because it's one of the brand's biggest strengths, especially as screen sizes increase. **When:** Late 2020 **How Much:** \$22,000 (est)

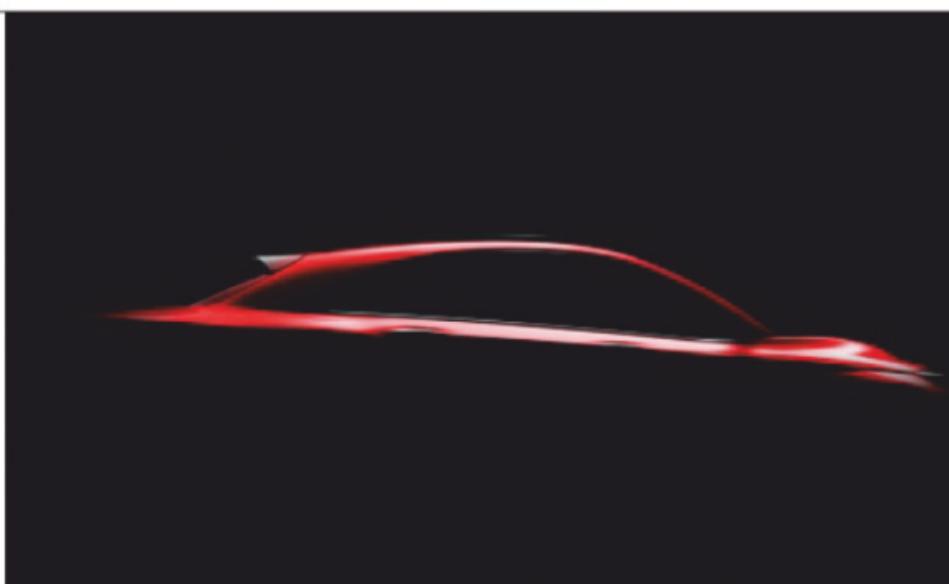


Lexus LQ

What's New: Ultra-premium, ultra-expensive SUVs have exploded in popularity, and Lexus doesn't want to be left out. The brand has already shown us what it wants to do with the LF-1 Limitless Concept. When it goes into production, expect it to remain a big, roomy two-row luxury SUV with an opulent interior and the next generation of Lexus design language. All current Lexus SUVs use a two-letter name with an X as the second letter, but this won't replace the existing LX. However, Toyota applied for the "LQ" trademark in 2018—right after the Limitless concept made its debut at the Detroit auto show. **What's Not:** Built on Toyota's new TNGA-L platform, the flagship should carry the new LS 500h's 3.5-liter V-6, which currently makes 354 hp, and CVT and four-speed automatic hybrid transmission. **When:** 2022 **How Much:** \$100,000

Infiniti QX55

What's New: Infiniti is entering the now-popular SUV coupe game with the QX55. Based on the QX50, the QX55 was inspired by the original, groundbreaking FX, and instead of having a swooping silhouette like the Mercedes-Benz GLE, its profile is nearly identical to the FX. The rear glass has a steep angle, which gives the QX55 that coupelike shape at the expense of some cargo capacity. Expect enormous Infiniti logos and lettering on the hatch and other cool details. **What's Not:** The powertrain. We expect the QX55 to be powered by the same 2.0-liter variable-compression turbo engine, which means its 268 hp and 280 lb-ft of torque would be sent to the front or all four wheels via a continuously variable transmission. **When:** Late 2020 **How Much:** \$40,000 (est)



Porsche Macan EV

What's New: Porsche's Taycan delivers shocking electric performance, but that vehicle's price and layout give it niche appeal. How can the brand apply its EV learnings to a mass-market offering? By electrifying its best-selling Macan. Trouble is, the MLB platform it rides on wasn't designed for battery propulsion (though Audi adapted it for the E-Tron crossover). As such, the Macan will be built on the PPE architecture that provides the basis for the Volkswagen Group's premium electric cars. **What's Not:** Electric hardware and software developed for the Taycan will be adapted for use in the Macan EV—not like that's a bad thing. **When:** 2022 **How Much:** \$65,000 (est)



Rendering by Avarvarri

Volvo XC100

What's New: Volvo needs a halo car to show its commitment to and capabilities with electric propulsion. That'll manifest in the XC100, a flagship luxury SUV. Although it'll be mechanically similar to the family-oriented next-gen XC90, the XC100 will take a more indulgent approach. Expect a four-seat layout, comfort-tuned dynamics, autonomous capabilities, and dramatic styling intended to distinguish Volvo from its Polestar performance division. Volvo might continue to build a hybrid XC90, but the XC100 will be purely electric to show the brand's dedication to a gasoline-free future. **What's Not:** The new SPA-II architecture will be the basis for all of Volvo's SUVs, from the XC60 to the XC100. Also shared: the Android infotainment system that's making its way into Volvo and Polestar cars. **When:** 2022 **How Much:** \$85,000 (est)



Rendering by Avarvarri



Byton M-Byte

What's New: Byton's first offering, the battery-electric M-Byte, is an automotive Rorschach test. Some see the natural evolution of the automobile into a connected, interactive, technology-loaded mobility platform. Others are aghast at its dash-spanning 48-inch screen and de-emphasis of driving (the front seats even swivel toward each other 10 degrees to ease conversation). Although the Level 4 autonomy it anticipates has been delayed, the China-based company is carrying on undaunted. Like many other new EV entries, Byton is partnering with Electrify America for public charging. **What's Not:** The M-Byte is brand new from the ground to its roof. **When:** Fall 2021 **How Much:** \$45,000 (est)



What's Next Trucks



Tesla Cybertruck

What's New: Tesla's take on the pickup truck is more than just its stealth-bomber styling. Its sheetmetal is 3mm-thick unpainted stainless steel that's bent into shape. Its F-150-sized frame has a front and rear trunk, and a 6.5-foot bed. Inside are two rows of bench seats with seating for six. Tesla says the Cybertruck can travel up to 500 miles on a charge when packaged with a new "double-stacked" battery. **What's Not:** Its motors—it's available with single-motor rear drive, dual-motor all-wheel drive, and tri-motor all-wheel drive—are borrowed from the Model S (with the latter setup making around 800 horsepower and 1,000 lb-ft of torque). The Cybertruck's air suspension comes from the Model X. From the Model 3 and Model Y, the Cybertruck gets Tesla's horizontal tablet infotainment setup. **When:** Early 2022 **How Much:** \$39,900 (single-motor); \$49,900 (dual-motor); \$69,900 (tri-motor)

GMC Hummer SUT and SUV

What's New: General Motors brings back the Hummer name on a GMC full-size electric pickup it calls an SUT (sport utility truck), to be followed by an electric SUV. Both Hummers will be squared-off and boxy with short overhangs and upright windshields, available in short- and long-wheelbase configurations, with an adjustable independent air suspension, giant off-road tires, and a removable targa top. They ride on GM's BEV3 dedicated electric vehicle architecture with up to three drive motors (AWD) and Ultium fast-charging batteries in a choice of pack sizes. The most powerful will provide up to 1,000 horsepower and 11,500 lb-ft of axle torque. Inside is a 15-inch touchscreen and beefy steering wheel. **What's Not:** Some Hummer design DNA. **When:** Fall 2021 (SUT) **How Much:** \$70,000 (est)



Illustration: Avarvari



Ram Dakota

What's New: The decision to bring back the Dakota after a decade off is largely in response to positive reception of the Chevrolet Colorado, the return of the Ford Ranger, and the continued success of the Toyota Tacoma. It will likely feature a scaled-down version of the design language seen on the Ram 1500 and a similar interior design, complete with a large tablet-style touchscreen display. Expect it to feature gas and diesel options, as well as possible hybrid powertrains. **What's Not:** Powertrains will almost certainly be borrowed from the larger Ram 1500. **When:** 2021 **How Much:** \$21,500–\$45,000 (est)

Ford F-150

What's New: It's easy to focus on the new front end and a mix of styling cues from the recently refreshed Super Duty trucks and the next-generation Ranger. But the real changes are deeper. A new platform supports a hybrid powertrain with a 3.5-liter gasoline V-6 and electric motors, as well as an all-electric model expected after the standard trucks go on sale. All current engines continue, with updates expected to the diesel V-6 and the gas V-8. An updated dashboard gets an all-digital instrument cluster and an enormous touchscreen infotainment system on higher trims. **What's Not:** Most of the bodywork is basically the same. Most powertrains carry over, each using the 10-speed automatic. **When:** Late 2020 **How Much:** \$30,000–\$70,000



Photo: Glenn Paulina

Cadillac Celestiq

What's New: The Celestiq is a massive four-door, four-passenger, full-size electric car with big wheels and a hatch instead of a trunk. It will be a hand-built grand tourer with tons of executive-style space in the very wide back seat. A tinted glass roof extends from the windshield to the rear hatch. Each bespoke sedan will have rich detailing such as flower petals embedded into the acrylic décor. The Celestiq rides on GM's new BEV3 dedicated electric vehicle architecture, which uses fast-charging Ultium batteries, placed under the floor. **What's Not:** Design takes some cues from the Cadillac Escala concept. Banner technology such as Super Cruise will likely be standard. **When:** 2022 **How Much:** \$200,000 (est)



Rendering by Avarvarii

Mercedes-Benz S-Class

What's New: Code-named W223, the new S-Class is a major redesign of the flagship Mercedes sedan. The exterior features taut, elegant surfacing, a long dash-to-axle ratio, and a more rakish C-pillar. Up front, high-tech digital headlights flank a new grille. The lavish new interior features a dramatic dash design and two screens; the horizontal one in front of the driver is similar to the one used in the current S-Class, and a Tesla-sized vertical screen extends upward from the center console. Powertrains will include the recently launched 3.0-liter straight-six and the AMG-developed 4.0-liter V-8—both featuring a 48-volt mild hybrid system—and there will be a plug-in hybrid version. The new S-Class will also boast Level 3 autonomous capability. **What's Not:** Of course there's a Mercedes-AMG version in the wings. Expect a big-horsepower version of the 4.0-liter V-8, all-wheel drive, and available carbon-fiber trim inside. **When:** Late 2020 **How Much:** \$95,000 (est)



Rendering by Avarvarii



Hyundai Prophecy Concept

What's New: As its description implies, this is a concept car—and a design you'll never drive. Evidence? Its steering wheel has been replaced by twin joysticks, a perennial dream car crowd-pleaser. However, note that its name is Prophecy—and we suspect that's no random choice. It's a concept, yes, but also a shape that could very likely predict that of a future battery-electric production version. Most notably, Hyundai's designers have gone to great lengths to minimize aero drag to maximize its range. For instance, note its strikingly Model 3-like nose (except for its multipoint "Pixel" headlights) and that carefully swept-back tail to keep airflow attached as long as possible. Don't be surprised to see this shape someday sitting atop the skateboard platform created by EV startup and Hyundai partner Canoo. **What's Not:** Being a concept car, the Prophecy was penned on a clean piece of paper. **When:** N/A **How Much:** N/A

Lexus IS

What's New: The IS is a midcycle refresh of Lexus' entry-level sedan, last revised in 2016. Although the outside will certainly look different, with more LS-inspired styling, the IS' underpinnings will be the same, albeit with revised suspension tuning and an improved chassis. The interior will be updated to reflect current design language, as well. Because this isn't a wheels-up redesign, some elements will be familiar, but changes to the dashboard and infotainment setups will give the IS a fresh look inside. **What's Not:** We expect the powertrains to remain the same. That means a 2.0-liter I-4 making 241 hp in the base model, a 3.5-liter V-6 making 260 hp in AWD versions, and an uprated 3.5-liter V-6 making 311 hp in pricier trims. **When:** Late 2020 **How Much:** \$40,000 (est)



Rendering by Avarvarii

WHAT'S NEXT | CARS



Subaru WRX and WRX STI

What's New: Subaru's aging WRX and WRX STI high-performance sedans move to the scalable Subaru Global Platform. Despite the cars' new underpinnings and redesigned bodywork, the two rally-inspired sedans evolve the formula of past WRX and WRX STI models by maintaining staple features such as standard all-wheel drive and a powerful turbocharged flat-four engine. Look for the run-of-the-mill WRX to trade the current car's 268-hp 2.0-liter four-cylinder for a larger, slightly more powerful 2.4-liter unit that mates to either a six-speed manual gearbox or an available CVT. The big-winged, stick-shift-only WRX STI, meanwhile, is due to feature a nearly 400-hp variant of its sibling's 2.4-liter four-pot. **What's Not:** Both the platform and the basic engine already underpin several other Subaru products.

When: Early 2021 **How Much:** \$30,000 (est)

Toyota GR86

What's New: Toyota and Subaru are making big changes for the second coming of the co-developed Toyota 86 and Subaru BRZ. A new powerplant will steal the most headlines, likely the 2.4-liter turbocharged unit that makes 260 hp and 277 lb-ft in the Subaru Ascent—that would have the upcoming two-door making 55 hp and 122 lb-ft (!) more than the current Toyobaru. The replacement 86 will be rebranded as the GR86, similar to the GR Supra, to strengthen Toyota's Gazoo Racing performance arm. Toyota is expected to supply the underpinnings for the new coupes, likely a version of the automaker's modular TNGA platform. **What's Not:** Although it hasn't been confirmed, we're praying these two will retain a manual gearbox option. **When:** Summer 2021 **How Much:** \$30,000 (est)



Mazda6

What's New: Mazda has blown up the 6 rulebook. Front-drive four-cylinder? Forget it. The next 6 will be rear-drive and powered by an all-new inline-six with Skyactiv-X spark-controlled compression ignition and a supercharger. An all-new eight-speed automatic backs up the engine, and Mazda's i-Activ all-wheel drive will be offered. Although this powertrain will be first out the door, recent patents show Mazda is working on electrification ideas, including an electric motor mounted on the gas engine with additional in-wheel electric motors. **What's Not:** The design of the new 6 may be hiding in plain sight, previewed by the Vision Coupe Concept shown here (which is actually a sedan, or four-door coupe in modern marketing speak). **When:** 2022 **How Much:** \$28,000 (est)



BMW i4

What's New: The i4 is BMW's first stab at a midsize EV, and its first job is to take the fight to the Tesla Model 3. Everything from the massive kidney grille to the funky rear taillights will be new. BMW says it will have an EPA-estimated range of 270 miles on a full charge and will sprint from 0 to 60 mph in 4.0 seconds. The i4 will also be ready to (mostly) drive itself with radar, lidar, and other sensors hiding behind those inflamed kidneys. It'll seat up to four, feature BMW's swoopy Gran Coupe fastback styling, and be the first car to wear BMW's redesigned logo. **What's Not:** BMW's i and M brands still aren't combining their efforts, so no performance models. **When:** Early 2022 **How Much:** \$55,000 (est)



Mercedes-Benz SL-Class

What's New: Having drifted far from its *Super-Leicht* roots, the completely redesigned SL is starting over as an AMG, built on the next generation of the performance brand's exclusive sports car platform under the GT S, GT C, and GT R supercars. Differentiating itself, the SL will get a folding hard-top convertible roof and 2+2 seating, straddling the divide between the AMG GT roadster and the dying S-Class Cabriolet. **What's Not:** A slew of AMG engines are lined up for duty, from turbocharged and mild hybrid inline-fours and -sixes to twin-turbocharged and mild hybrid V-8s. Both rear- and 4Matic+ all-wheel drive will be offered, indicating a nine-speed automatic transmission rather than the GT's racy dual-clutch.

When: Late 2021 **How Much:** \$100,000 (est)

Rendering by Avarvarii



Lucid Air

What's New: Coming from much of the brain trust that created the Tesla Model S and every battery used in Formula E, the Lucid Air is in many ways the now-aging Model S' spiritual successor. The car is a technology powerhouse, initially with 1,000 hp (and potentially 1,200 hp) from its dual electric motors—with a three-motor version in the works. A key advance is its motors' operation at a soaring 900 volts, miniaturizing the drivetrain. The result is unexpected passenger room inside, cloaked in a sublime shape penned by ex-Mazda design chief Derek Jenkins. **What's Not:** As Lucid's from-the-ground-up first offering, it shares nothing with anything before it.

When: Fall 2021 **How Much:** \$60,000 (est)

Mercedes-Benz EQS

What's New: The EQS is the first of four mid- to large-sized electric vehicles—two cars and two SUVs—scheduled to come off Daimler's new modular BEV architecture. As the name suggests, this is intended to be the electric equivalent of an S-Class and is roughly the same overall size as the current flagship Mercedes sedan. Despite a sporty roofline inspired by the CLS and AMG GT 4-Door, the BEV architecture follows the familiar skateboard format with a central underfloor battery pack and motors at each axle, which affords significantly more room for passengers and their stuff. The dramatic interior features a full-width screen spanning the dash and extending down to the center console. **What's Not:** Assorted pieces of suspension and brake hardware. The flush door handles and next-gen MBUX system will be shared with the new W223 S-Class. **When:** 2021 **How Much:** \$110,000 (est)



Audi TT E-Tron

What's New: Audi's shifting priorities killed off the TT as we know it, but the iconic coupe will live on in spirit with battery power. Although Audi and Porsche are working on the PPE platform for large premium EVs and the Taycan's J1 platform will support Porsche electric sports cars, VW's MEB platform will underpin the TT E-Tron. MEB's dual-motor capability will provide Quattro electric all-wheel drive. As before, the TT EV will have snazzy styling, a practical hatchback, and a drop-top variant. **What's Not:** Like its combustion forebear, the TT E-Tron will share parts with common Volkswagens from the MEB platform. **When:** 2023 **How Much:** \$50,000 (est)

Rendering by Avarvarii



COMPARISON | 2020 Toyota RAV4 XSE Hybrid vs. 2020 Honda CR-V Touring Hybrid

Go ahead, splurge. Treat yourself to the best compact SUV in the showroom—just don't let the hybrid badge surprise you.

If that H word provokes associations of stodgy compromise-mobiles, consider this: The 2020 Honda CR-V and 2020 Toyota RAV4 hybrids offer engine upgrades that deliver more responsiveness and efficiency than almost any SUV under \$40,000.

Oh, and you'll retain the interior space you expect while traveling more than 100 miles farther between fuel stops. The hybrid models of these segment-dominating rivals provide satisfying and guilt-free motoring. If you really are



set on the best on the showroom floor, though, which of these two offers the best top-trim hybrid? The CR-V Touring or the RAV4 XSE?

Most folks who buy hybrids prioritize gas mileage, so we'll start there. The Toyota (along with Ford's new Escape Hybrid) wins the race for

data-obsessed buyers, with an excellent 40 mpg combined EPA rating. But you're reading *MotorTrend*, which means you understand there's more to the picture than simply superb efficiency. The all-wheel-drive Honda falls a tiny bit behind the others in the economy race, with an EPA-rated 40/35 mpg city/

So. Much.



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highway to the AWD Toyota's 41/38 mpg and the Ford's 43–44/37 mpg (front-drive or AWD). Our real-world results with the Toyota and Honda further reflected the former's advantage.

Even if you're only an environmentalist when Greenpeace volunteers are at the door, how would you like three extra days of commuting without stopping for gas? With the CR-V, upgrading from an AWD model to the AWD hybrid means 126 extra miles of range if you drive as efficiently as the EPA's estimates. The RAV4 hybrid extends driving range by 145 to 174 miles, depending on the trim. (Editor's note—as of this writing, Toyota was working through an issue affecting an



unknown number of 2019 and 2020 RAV4 Hybrids, in which a variation in the shape of the fuel tank may be impacting the car's ability to get a full fill-up.)

Enthusiasts of good deals can get behind these hybrids, too. Honda only charges \$1,200 more for the hybrid relative to its AWD non-hybrid trim, and Toyota has cut its hybrid premium to only \$1,000 more than AWD non-hybrid variants. That's compelling. Depending on how and where you drive, paying off

those premiums with the money you save on gas over the course of a five-year loan should be a cinch.

"Remarkably fun." That's what testing director Kim Reynolds had to say of the RAV4 XSE hybrid after he drove it at the limit on our figure-eight course, which evaluates braking, cornering, accelerating, and the transitions in between. Our RAV4 Hybrid tester hit 60 mph in just 7.1 seconds, beating the CR-V Hybrid's 7.5 seconds, almost a full second quicker than our 2019 RAV4 XLE AWD gasoline long-termer, and about 6 seconds swifter to 60 than the original 1998 Prius. Not bad for a hybrid SUV only 1 mpg off that trailblazing, stubby hybrid sedan.

At a more relaxed pace, the RAV4 XSE Hybrid's dynamics are solid but not quite as entertaining. "The steering on the Toyota feels more artificial and has less feedback," MotorTrend en Español managing editor Miguel Cortina said after driving the Honda and Toyota. It's more than just the steering, though.

The sport-tuned RAV4 XSE is less compliant than the CR-V, yet the Honda

Cake.



WORDS ZACH GALE PHOTOS BRANDON LIM

HONDA FINALLY HAS A HYBRID SUV TO CHALLENGE TOYOTA'S DOMINANCE



The Toyota (at left) delights with grippy knobs and a color-changing drive mode selector. Ooo. The Honda impresses, too, but with a mastery of most practical details.

still feels fun for a sensible crossover. Reynolds preferred the RAV4's dynamics on the track but spoke to what we discovered on the street: The Honda feels nimbler during casual driving. The CR-V also hands the RAV4 the title for quickest compact SUV hybrid in exchange for slightly more comfortable suspension and transmission tuning.

There's no right or wrong here; it's more a matter of taste. If you want the ultimate in suspension compliance, go with the CR-V Touring Hybrid. But if the Honda can't quite match your lead-footed driving style—which suddenly mates well with a hybrid setup—then try the quicker and more responsive RAV4 XSE.

So you're thinking of going with the CR-V because a 0.4-second difference to 60 mph doesn't faze you. OK, but before

you end a CR-V Hybrid test drive, listen for the motorboating transmission by applying moderate to maximum throttle. That occasional intrusion is the biggest reason the Honda Insight wasn't our 2019 Car of the Year, and for some it will sour an otherwise excellent driving experience. With my stop-and-eventually-go



We're fans of the Toyota RAV4 XSE's available (and oh-so-fashionable) contrasting roof and pillars.



commute, I'd gladly accept the unconventional way the transmission lets the engine swell toward its power peak as a trade-off for smoothness.

The CR-V regains its footing with fantastic brake feel, at least in everyday driving. In our 60-0 panic stop testing, road test editor Chris Walton was surprised by the "huge delay between pedal pressing and actually slowing." It nevertheless stopped in 115 feet, which beat the Toyota's 120-foot performance.

What delighted us on the street, however, was the CR-V's braking feel; it felt more like a non-hybrid than almost any hybrid available today. The Toyota's brakes feel almost normal to the end of the pedal's travel, but the Honda is so good that some might not even realize it's a hybrid. Cortina also appreciated the CR-V's steering column paddles, which function as regenerative braking actuators rather than traditional gear shifters. "They almost work for one-pedal driving," he said.

Inside, the Honda and Toyota are almost perfect foils. The Toyota exudes a sort of outdoorsy charm, even in sporty XSE trim. Like a North Face backpack worn by someone who went hiking once, the Toyota is cool even when you know more hardcore alternatives exist. The grippy material behind



SPEC CHECK

Toyota RAV4 Prime vs. Ford Escape PHEV

The Ford Escape Hybrid arrived in 2004 and was the pioneer in a market packed with internal combustion engines, and in the years since, hybrid crossovers have grown increasingly popular. As electrified vehicles gained attention and governments imposed harsher regulations to cut CO₂ emissions, new hybrid SUVs arrived. In recent years, some automakers have taken further steps in the electrified scenario, developing plug-in hybrid (PHEV) SUVs.

The 2021 Toyota RAV4 Prime and the 2020 Ford Escape Plug-In Hybrid are the two newest mainstream PHEV compact crossovers, each offering more power and range than their regular hybrid variants. Here's a look at some of their specs, including fuel economy, range, and recharging times.

Powertrain Crackdown
Toyota extended the "Prime" name to its most popular crossover, but unlike the Prius Prime, which features different styling than the regular Prius, the RAV4 Prime keeps the bold styling of the current RAV4. Toyota has reserved some of the details on the RAV4 plug-in, but we know it will be powered by a 2.5-liter Atkinson-cycle I-4 engine with 176 hp and 168 lb-ft of torque that's mated to the same two electric motors found in the regular hybrid, plus a third one at the rear axle and a battery pack to help deliver an

eye-popping 302 hp total and standard all-wheel drive. Toyota estimates the RAV4 Prime will launch to 60 mph in 5.8 seconds, which would make it the quickest RAV4 in the lineup.

Although the Escape was technically the SUV that started this green movement, this is the first time Ford has produced a plug-in hybrid Escape. Compared to the RAV4 Prime, the Escape PHEV won't be as impressive of a performer. Its powertrain is also composed of a 2.5-liter Atkinson-cycle I-4, but here it produces 168 hp and 170 lb-ft of torque and is mated to a 48-hp electric motor and a 14.4-kW-hr lithium-ion battery, delivering 209 hp in total. A CVT sends all that power to the front wheels, as all-wheel drive is not supported in the Escape PHEV. Given the big horsepower differences, we expect the Ford to reach 60 mph in about 9.0 seconds.

Fuel Economy and Electric Range

Toyota estimates the RAV4 Prime will deliver 90 mpg-e

combined, and with its presumably large battery, it should provide 39 miles of electric range. We'll have to wait until the summer to get the all the fuel economy numbers on the Prime.

We expect Ford to launch the Escape PHEV midyear, and it should deliver about 30 miles of electric range. Fuel economy hasn't been released yet for the plug-in Escape, but the non-plug-in Escape Hybrid returns an impressive 44/37/41 mpg in city/highway/combined in front-wheel-drive form.

Charging Times

Ford says it should take about 10 hours to charge the Escape's 14.4-kW-hr battery on a Level 1 wall charger, which is not that bad if you plug it in overnight. However, if you want faster charging, you'll have to upgrade to a Level 2 charger, which will do the job in 3.5 hours.

Unfortunately, as of this writing, Toyota didn't have the final charging times for the RAV4 Prime, so we'll have to wait a little longer to get them. **Miguel Cortina**



Ford
Escape PHEV





the front door pulls and on the enormous HVAC knobs speak to that spirit, as does the line pattern on the bottom of the cupholders and even on the footpad of the driver's floormat. Then there's the way the geometric pattern in the headlights matches the pattern on the door sill trim.

Taken at this level of interior detail or from 50 feet, the RAV4's design will inspire pride from owners who notice. Pro tip: Even if you rarely use the RAV4 Hybrid's Eco and Sport drive modes, think of the controller as a soothing fidget toy. When you're waiting for someone or

CARGO SPACE ASIDE, THE CR-V BLOWS THE RAV4 OUT OF THE WATER IN PRACTICAL DETAILS.

at a long light, rotate the grippy material of that drive mode disc to see the light change from green to blue to red. Neat.

The Honda has a more conventional interior design aesthetic. The woodlike trim isn't as convincing as what you'll find in the Accord, but it still speaks to its more mainstream-luxury approach. The RAV4 XSE has blue accents on the dash and in the seats to mark its hybrid status, but the CR-V Hybrid's biggest interior change compared to the non-hybrid model is the lack of a gear lever. In its place, this Honda has gear buttons, which we found intuitive once we got used to them. Oddly, the gear shifter of our RAV4 XSE tester required a bit more effort to push from drive to park than we'd like.

On the practical side of things, these SUVs excel in different ways. Although the CR-V Hybrid's cargo load floor is slightly lower than the Toyota's, the Honda offers only 33.2 cubic feet of cargo

space to the Toyota's 37.6. Both cargo areas are spacious, but it's worth noting you won't lose any cubes shifting from non-hybrid to hybrid in the Toyota—and it also manages to make room for a spare tire. With the Honda, you give up 6.0 cubic feet when you tick the hybrid box.

If you buy on a day when your left brain is calling the shots, we'd still recommend the Honda. Although the CR-V lacks the RAV4's cargo space advantage, it blows



The CR-V's hybrid powertrain produces more hp—212—than any other CR-V variant.



The RAV4 uses a motor at the rear axle for its AWD; the CR-V has a standard AWD system.



Both SUVs earn an NHTSA five-star overall score and a 2020 IIHS Top Safety Pick designation.

the Toyota out of the water in most practical details in front of the cargo area. Honda has mastered the details—maybe that's one reason the CR-V won a non-hybrid Big Test comparison and was our 2018 SUV of the Year when the current generation made its debut.

Honda sweats everything, from the way the rear doors open almost 90 degrees to the way the front seat tracks aren't as intrusive for rear passengers as in the Toyota. It's the way the drivetrain hump is that much less noticeable, making it easier for outboard passengers to stretch their legs toward the center. Up front, it's the way the supremely usable, flexible center console makes the cabin feel airier. Even the steering wheel's volume and track-forward controls are in a smarter place on the Honda.

Still, the CR-V is far from perfect. Cortina missed having a radio tuning knob, and the CR-V's infotainment screen feels like a sad, 7.0-inch homage to what used to be acceptable at this price point. Most CR-V competitors offer screens that are a bit larger and, crucially, mounted higher on the dash for optimal visibility. Expect the next-generation CR-V to adopt this layout—you know, just like the 2020 Accord already does.

This is a close one. These two sales leaders demonstrate that no one needs to accept a compact hybrid SUV with an absurdly high cargo area load floor anymore. And at least with the Honda and Toyota, *MotorTrend* testing confirms that poky hybrid acceleration is a thing of the past. Go ahead and roll your eyes—the real winner here is you. Both rivals are worth driving even as they strive to be the best hybrid SUV in different ways.

The Toyota actually offers more value and technology on lower trim levels than the Honda, which charges a greater premium for a power liftgate, Apple CarPlay, and Android Auto. When it comes to our \$37,070 CR-V Touring and \$38,557 RAV4 XSE hybrid testers, though, we couldn't ignore that gaping price difference. At the more expensive end of the segment, the Toyota doesn't have \$1,500 more excellence (or equipment) than the Honda does. Also, Toyota, how about adding a power passenger seat on some 2021 or 2022 RAV4s?

Now a few years removed from its SUV of the Year win, the Honda can't hide a couple of warts in hybrid form. But if we had just less than \$40,000 for a hybrid SUV, we'll take the CR-V. ■

POWERTRAIN/CHASSIS	2020 Honda CR-V Hybrid Touring AWD	2020 Toyota RAV4 XSE Hybrid AWD
DRIVETRAIN LAYOUT	Front-engine, AWD	Front-engine, AWD
ENGINE TYPE	I-4, alum block/head, plus AC permanent-magnet electric motor	I-4, alum block/head, plus AC permanent-magnet electric motors
VALVETRAIN	DOHC, 4 valves/cyl	DOHC, 4 valves/cyl
DISPLACEMENT	121.6 cu in/1,993cc	151.7 cu in/2,487cc
COMPRESSION RATIO	13.5:1	14.0:1
POWER (SAE NET)	143 hp @ 6,200 rpm (gas), 181 hp (elec); 212 hp comb	176 hp @ 5,700 rpm (gas), 118/54 hp (f/r elec); 219 hp comb
TORQUE (SAE NET)	129 lb-ft @ 3,500 rpm (gas), 232 lb-ft (elec)	163 lb-ft @ 3,600 rpm (gas), 149/89 lb-ft (f/r elec)
REDLINE	N/A	N/A
WEIGHT TO POWER	17.5 lb/hp	21.4 lb/hp
TRANSMISSION	1-speed automatic	Cont variable auto
AXLE/FINAL DRIVE RATIO	3.89/N/A:1	3.61:1/N/A:1
SUSPENSION, FRONT; REAR	Struts, coil springs, anti-roll bar; multilink, coil springs, anti-roll bar	Struts, coil springs, anti-roll bar; multilink, coil springs, anti-roll bar
STEERING RATIO	12.3:1	14.3:1
TURNS LOCK TO LOCK	2.3	2.7
BRAKES, F; R	12.6-in vented disc; 12.2-in disc, ABS	12.0-in vented disc; 11.1-in disc, ABS
WHEELS	7.5 x 19-in cast aluminum	7.0 x 18-in cast aluminum
TIRES	235/55R19 101H (M+S) Continental CrossContact LX Sport	225/60R18 100H (M+S) Michelin Primacy A/S
DIMENSIONS		
WHEELBASE	104.7 in	105.9 in
TRACK, F/R	62.9/63.5 in	63.0/63.7 in
LENGTH X WIDTH X HEIGHT	182.1 x 73.0 x 66.5 in	180.9 x 73.0 x 67.0 in
GROUND CLEARANCE	8.2 in	8.1 in
APPROACH/DEPART ANGLE	18.9/26.0 deg	19.0/21.0 deg
TURNING CIRCLE	37.4 ft	36.1 ft
CURB WEIGHT	3,720 lb	3,770 lb
WEIGHT DIST, F/R	58/42%	56/44%
TOWING CAPACITY	Not recommended	1,750 lb
SEATING CAPACITY	5	5
HEADROOM, F/R	38.0/39.1 in	37.7/37.7 in
LEGROOM, F/R	41.3/40.4 in	41.0/39.5 in
SHOULDER ROOM, F/R	57.9/55.6 in	57.8/56.4 in
CARGO VOLUME BEH F/R	68.7/33.2 cu ft	69.8/37.6 cu ft
TEST DATA		
ACCELERATION TO MPH		
0-30	2.9 sec	2.3 sec
0-40	4.1	3.6
0-50	5.6	5.2
0-60	7.5	7.1
0-70	10.0	9.3
0-80	13.4	12.0
0-90	—	15.3
PASSING, 45-65 MPH	3.9	3.7
QUARTER MILE	16.0 sec @ 86.3 mph	15.4 sec @ 90.1 mph
BRAKING, 60-0 MPH	115 ft	120 ft
LATERAL ACCELERATION	0.81 g (avg)	0.80 g (avg)
MT FIGURE EIGHT	28.0 sec @ 0.60 g (avg)	27.6 sec @ 0.63 g (avg)
TOP-GEAR REV @ 60 MPH	N/A	N/A
CONSUMER INFO		
BASE PRICE	\$37,070	\$35,420
PRICE AS TESTED	\$37,070	\$38,557
STABILITY/TRACTION CONTROL	Yes/Yes	Yes/Yes
AIRBAGS	6: Dual front, front side, f/r curtain	8: Dual front, front side, f/r curtain, driver knee, front passenger thigh
BASIC WARRANTY	3 years/36,000 miles	3 years/36,000 miles
POWERTRAIN WARRANTY	5 years/60,000 miles (8 years/100,000 miles hybrid components)	5 years/60,000 miles (8 years/100,000 miles hybrid components)
ROADSIDE ASSISTANCE	3 years/36,000 miles	2 years/25,000 miles
FUEL CAPACITY	14.0 gal + 1.4-kW-hr Li-Ion battery	14.5 gal + 1.6-kW-hr Ni-MH battery
EPA CITY/HWY/COMB ECON	40/35/38 mpg	41/38/40 mpg
ENERGY CONS, CITY/HWY	84/96 kW-hr/100 miles	82/89 kW-hr/100 miles
CO2 EMISSIONS, COMB	0.52 lb/mile	0.49 lb/mile
RECOMMENDED FUEL	Unleaded regular	Unleaded regular

DAILY DRIVE | 2020 Ferrari F8 Tributo

If Ferrari PR offered you a 2020 F8 Tributo for the day, would you turn them down? Heck no, and neither did we. *MotorTrend* contributor Derek Powell already drove the tires off the latest mid-engine 710-horsepower twin-turbo V-8 Ferrari in Italy last fall, including laps on the infamous Pista di Fiorano test circuit, so this isn't our typical First Drive.

But driving a Ferrari around the middle of Italy comes with its own special challenges, from the unfamiliar, narrow roads to intrigued *carabinieri* and little kids dashing into the street to see what all the fuss is about. Southern California is familiar. And consistency helps when evaluating cars.

So what is it like having an F8 Tributo in L.A. for a day? A blast, of course, but I also got blasted with questions, photos, videos, and challenges.

Thumbs-up and "Cool car, dude!" were the most frequent reactions I got driving the F8 Tributo. As its name suggests, this car is a tribute to mid-engine V-8-powered two-seat Ferraris, dating back to 1975 with the 308 GTB.

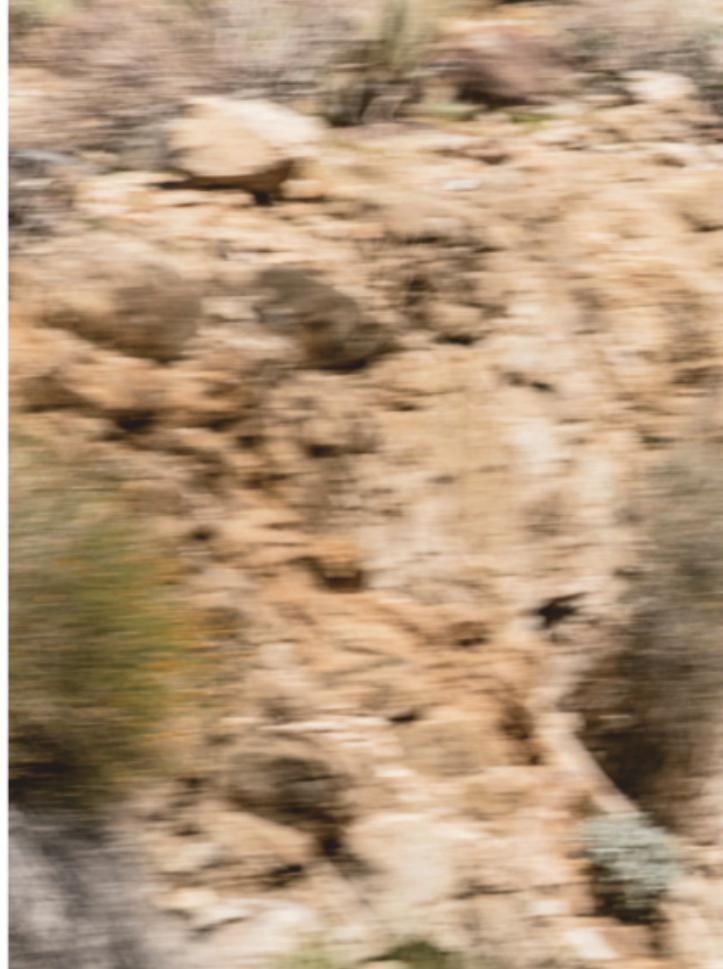
Following on the heels of the fabulous 488 GTB, *MotorTrend*'s 2017 Best Driver's Car, and more recently the 488 Pista,

the F8 Tributo is a further evolution, the most powerful V-8 production car Ferrari has ever produced, and what most people expect a Ferrari to be—a nimble, screaming supercar wrapped in impossibly beautiful sheetmetal and sprinkled liberally with carbon fiber.

What's surprising is that our early-build pre-production example isn't the traditional Rosso Corsa red. Instead, the Grigio Titanio metallic paint gave it a stealthiness, if that's possible with a Ferrari, that afforded me more anonymity than I'd anticipated.

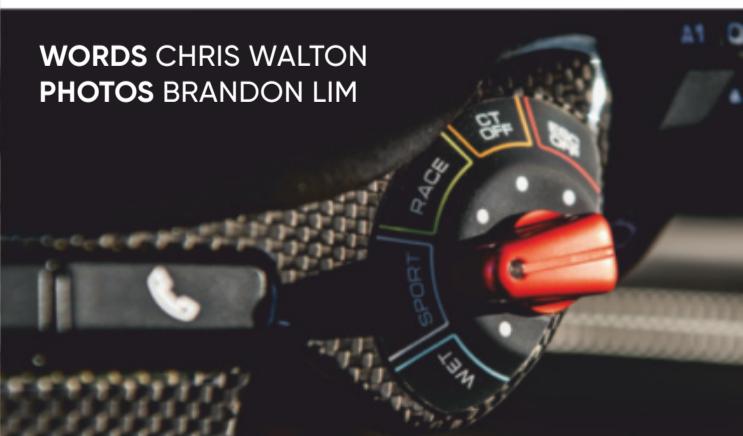
I've driven red and yellow Ferraris that drew so much attention that it was difficult to maneuver in traffic because other drivers boxed me in so they or their passengers could get a good look at or snap a picture of the car. Oh, it still happened with the Tributo: I got boxed in four times and subjected to three photo bombs and three video snappers (one of whom veered into my lane because he had both hands on his phone).

I was also challenged to roll-on races on the highway five times by drivers of a Tesla Model S, two different Dodge Challengers (natch), one motorcycle, and one particularly optimistic Infiniti G37 driver. The only one I (sort of) accommodated



YES, YOU' CAN

WORDS CHRIS WALTON
PHOTOS BRANDON LIM





**BUT BE PREPARED FOR QUESTIONS, CHALLENGES,
AND APPEARANCES ON OTHER PEOPLE'S SOCIAL MEDIA**



The layout might be unconventional, but getting to know the various user interface systems in the Ferrari F8 Tributo is rather intuitive.



was the Model S. He was on my tail, and I blasted away from him up the mountain road you see pictured here to the turn-out I used for photos. Teslas may be quick, but he had nary a chance of catching me.

“How much does that cost?” was the second most frequent question of the day. This particular 2020 Ferrari F8 Tributo has \$95,211 in options, raising the base price from \$275,580 (including \$1,300 gas guzzler tax) to a dizzying \$365,741. Mind you, Ferrari options don’t come cheap. You want Apple CarPlay? That’ll be \$4,212, thank you (free on a base Corolla, BTW).

We would recommend the quick-acting nose lift for \$5,062, which will save your ears from the terrifying *scrffffitch* of chin spoiler on your driveway entrance. Perhaps because of all the options, our car tipped the scales at 3,527 pounds; Ferrari estimates it’s closer to 3,200. Don’t believe everything you read.

Ferrari claims a 2.9-second sprint to 110 kph (62 mph). Checking our numbers

from the 661-hp, 3,421-pound 488 GTB that did the deed in a mere 2.7 seconds, we’d say the 710-prancing-horses F8 Tributo would be nearer to 2.5 to 2.6.

The F8’s launch control is a new, more advanced version of the already-excellent system from the 488 and distributes all that power through a rapid-fire seven-speed twin-clutch automatic. Quarter mile? Again, the 488 GTB ran it in 10.6 seconds at 135 mph, so we’d guess low 10s at over 140 mph.

The thrust from the engine is so great even at part throttle that I only went to full throttle a couple times; highway on-ramps are good for a brief thrill. The F8 really comes alive at 5,000 rpm, with the titanium exhaust sounding like it’s ripping the air to shreds. Power peaks at 7,000 rpm, and the redline is at 8,000 rpm. We can’t verify it, but given enough room and a legal place to run it, Ferrari claims a 211-mph top speed. I don’t doubt that for a moment.

2020 Ferrari F8 Tributo

PRICE	\$275,580
LAYOUT	Mid-engine, RWD, 2-pass, 2-door coupe
ENGINE	3.9L/710-hp/568-lb-ft twin-turbo DOHC 32-valve V-8
TRANSMISSION	7-speed twin-clutch auto
CURB WEIGHT	3,527 lb (42/58%)
WHEELBASE	104.3 in
L X W X H	181.5 x 77.9 x 47.5 in
0-60 MPH	2.6 sec (MT est)
EPA FUEL ECON, CITY/HWY/COMB	15/19/16 mpg
ENERGY CONSUMPTION, CITY/HWY	225/177 kW-hr/100 miles (est)
CO2 EMISSIONS, COMB	1.17 lb/mile (est)
RECOMMENDED FUEL	Premium
ON SALE	Currently



While shooting photos of the car on a desolate high-desert road with windmills in the background, a guy in a Toyota 4Runner apparently spotted us from the highway, pulled off, and offered me \$200 to drive it.

“Sorry, I can’t do that.” Then he offered me \$100 for a ride. “Again, I’m sorry, but I can’t do that, either.” He understood, took his own photos, joined the, “Cool car, bro,” chorus, and off he went. It was about this time that Brandon Lim, our intrepid photographer, said, “I’m glad it’s not red. This color is really showing off the bodywork in ways the red wouldn’t, especially as the sun is setting. Do you mind if I keep shooting?” I didn’t: “Dude, shoot away. That’s why we’re here!”

IT'S REMARKABLE TO FEEL THE WEIGHT SHIFT FROM CONTACT PATCH TO CONTACT PATCH, EACH CORNER OF THE CAR DOING ITS LEVEL BEST TO PROVIDE WHAT THE DRIVER WANTS.

DAILY DRIVE



Earlier, before meeting Brandon for photos, I drove up state highway 243 from Banning to Idyllwild and back again. Holy smokes, what a road. And what a perfect car for that road. The default is Sport mode (there is no “Normal” in the F8), and I also sampled Race. As we found with the 458 Italia, the Bumpy Road button on the steering wheel, denoted by a shock absorber icon, provided a surprisingly cushy ride on the highway.

Yet driving a \$365K car on a somewhat familiar twisting road with runoff from recent rains and snow still dusting the

shoulders at the top, I thought it prudent not to explore CT Off (traction control defeated) mode or even the car’s built-in Side Slip Angle Control (drift mode). Powell did on his track day, and he said, “Sure, these systems can make anyone look like a hero, but in the hands of drivers who genuinely want to improve their skills, this is a fantastic way to do it.”

Even with all the nannies turned on, what stands out is the F8’s balance, all the time, every time. With its 42/58 front/rear weight distribution, it feels like the car is balancing on a pin between the seats. It’s remarkable to feel the weight shift from contact patch to contact patch, each corner of the car doing its level best to provide what the driver wants.

The F8’s obedience is immediate, precise, and absolute. The steering is magical and so quick that I found I had to delay turn-in until the last moment—then trust the car to do what I wanted. It always did, without fail.

The standard carbon-ceramic brakes (15.7-inch diameter front, 14.2 inches rear) are, as one would expect, tremendous. That said, I prefer the pedal feel of the new Porsche 911 Turbo S. The Ferrari’s pedal is race car firm with

a short stroke, and brake modulation is achieved with pedal pressure; the Porsche’s brake pedal offers more travel, more gradual bite, and as a result, it’s easier to find the ABS threshold and back out slightly.

Still, what a capable, explosive, thrilling, and sometimes frightening automotive achievement the Ferrari F8 Tributo is, as it should be, always and forever and ever, amen. A daily driver? It’s far more livable than one might imagine. The cabin is spacious. Sightlines are remarkable. The ride is incongruously good for exotica. But the attention it draws, the unwanted challenges, and the driver distraction it causes might be the actual discouragements to purchasing one. Nah, who are we kidding? That’s part of owning a Ferrari. ■

At one gas stop, a woman shouted out, “Thanks for the sights and sounds!” So went the day in the life of a Ferrari driver.



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HYPERBOLE ASIDE, WE WEREN'T EXPECTING THIS

WORDS CHRIS WALTON
PHOTOS WILLIAM WALKER



So, whaddaya think?" senior features editor Jonny Lieberman asked with his arms folded, head tilted back and to the left, as Jonny does. He had just driven the 992-generation 2021 Porsche 911 Turbo S to our photo location on Los Angeles' favorite twisty bit, Angeles Crest Highway. He lives a few miles from the base of the hill, so he knows this stretch of road by heart.

"Unreal! How did they do that? It's a blend of what the 991.2 Turbo S was and a GT3 RS," I said. "It's sharp, delicate, precise, talkative, but fast, too. I wasn't expecting this at all. This is a driver's car."

"Yeah," Jonny said. "This car should definitely be headed to our 2020 Best Driver's Car." What was I expecting? Before driving the new Turbo S, I had blasted up ACH and arrived at that turnout in a 992 Carrera 4S,

grinning and giggling the whole way up. That version of the 911 has a fluidity and sense of always being there for you. It's a lovely driving partner, cornering as fast as you dare and able to build and shed speed with confidence. The C4S and Turbo S both come armed with carbon-ceramic brakes, rear-steering axles (both optional on the Carrera), and all-wheel drive, but that's where the similarities end.

THE BEST TURBO EVER. .



Climbing into the Turbo S, I was expecting that same C4S hand-in-glove experience. But with 200 more hp (197, if you want to get technical), the Turbo provides an added urgency that erases straightaways. But there's so much more to a Turbo S than squirt-between-corners acceleration. It's as if during its development, the Turbo spent time in Flacht before being released into the wild.

Flacht, for those who don't know, is the state-of-the-art motorsport complex adjacent to the main Porsche development center in Weissach, Germany. It's where every Porsche race car and also the hardcore, lightweight, track-intended GT2 RS and GT3 RS versions of the 911 are born.

My instincts turned out to be correct. Frank-Steffen Walliser, who was





responsible for GT racing at Porsche, became head of the 911 and 718 model lines in 2019. In an interview, Walliser explained the balancing act and ultimate priority of the 911 Turbo: “Day-to-day usability, for sure. This quality distinguishes the 911 Turbo from all other high-performance sports cars. At the same time—and this was the second development goal—it has to render you speechless from time to time.”

Mission accomplished, *Herr Doktor* Walliser.

Sitting behind the wheel of the all-new 911 Turbo S, there’s no way to suspect what potentialities lie ahead. Aside from the animated “Turbo S” greeting in the center ring of the familiar five-ring instrument cluster (two of which are obscured, in a rare Porsche gaffe), it’s “just” a 911.

There’s the same Sport/Chrono clock/timer atop the dash, same sharp and responsive touchscreen interface with its handy thumb perch (carbon fiber, in this case), same silly little stub of a shifter.

Twist the starter, located to the left of the steering wheel #BecausePorsche, and *vroOOomm*. “Well, that does sound pretty purposeful,” I thought—especially through the newly optional sport exhaust system

We wish there were a more satisfying gear selector, but there’s no denying how miraculous the eight-speed twin-clutch automatic reacts to driver input.



(\$3,490). After selecting Sport Plus and pulling back on the shifter (which always feels to me like dislocating somebody’s thumb), I looked both ways, eased onto the highway ahead, and nailed it.

My brain was still back at the turnout when I arrived at the first corner a thousand feet down the road. David Byrne spoke to me. “Well, how did I get here?” Indeed, speechless. Besides the explosive and uncharacteristically linear power, it’s thrilling to finally hear the turbos in the Turbo—hissing in fury as the wastegates dump the compressed air it cannot use with that wonderful, racy *woochz-ch-ch-ch*.

It doesn’t hurt that there’s 590 lb-ft of torque available between 2,500 and 4,000 rpm, and there are no longer overboost conditions required to get a full serving of it. The utter lack of turbo lag, according to Walliser, is due to “wastegate control, charge-air cooling, turbocharger dimensioning, and VTG, [Porsche’s unique] variable turbine geometry.” Porsche also made the exhaust plumbing symmetrical, so the turbos now spin in opposite directions.

No, this is no ordinary Turbo in the sense it once was. It’s alive like a GT-class race 911, and as with those, respect needs to be paid. It’s the type of acceleration that forces drivers to keep their eyes up, have a plan, and drive with commitment because before you know it, you’re there.

Expecting a typically firm/short Porsche ceramic brake pedal, I discovered a much softer/longer one that I quickly learned makes it far easier to detect impending ABS intervention and avoid it. A corner later, I could reach threshold braking precisely and repeatedly and modulate it without guessing where or when it would occur. Nice.

I also wasn’t expecting such a friction-free steering system, which I always prefer to heavy. This particular car was optioned with Power Steering Plus (\$280), which uses software to reduce steering effort at lower speeds, and I could feel every ripple or crack in the pavement through my fingertips. Delightful and precise as ever. I never sensed the rear-steer effects. The car feels nimble and alert.

I could also sense the front tires’ grip building and fading and how the steering gets light when the weight shifts to the rear—just like the first time I drove a 911 nearly 30 years ago, before power steering, much less electric-assisted power steering. “They’ve nailed it!” I thought. Clearly, there’s ample





Driving performance is the focus of Sport Plus mode. From aerodynamics to driveline response, it's "All systems, GO!"



institutional memory and pride at Porsche when it comes to steering.

And the grip, my word, does it have grip with its staggered but "mere" Pirelli P Zero NA1 tires ("NA" means purpose-built for the 911), 255/35Z20 93Y up front and 315/30Z21 105Y out back. I rarely saw the stability control or traction control telltale blink in the instrument panel despite traveling what must have been (remember, "eyes up") a +20-mph delta in the same corners as I had just driven in the Carrera 4S.

It must seem like such a cop-out and a cliché to read "the best 911 Turbo ever." But when Porsche remasters what was pretty much a masterpiece, truly an everyday supercar, there's hardly anything else to say.

Walliser and his crew have improved every aspect of the car where one wouldn't think it possible. It has more power that's more accessible and tractable. As for brake feel and modulation, I'm searching my memory for another car as good as the 911 Turbo S, and I'm coming up short. We didn't even discuss in detail the newly available active suspension, which makes this one of the plushest-riding 911s, and when combined with the standard dynamic chassis control it maintains that poise even when pushed to its limits.

With so many systems firing away like the proverbial ghosts in the machine, it would be an easy temptation to simply build a clinical car that essentially drives itself—something so competently quick yet devoid of the thrill and joy of driving. A different twin-turbo six-cylinder all-wheel-drive car, the robotic-feeling Nissan GT-R, comes to mind.

But not Porsche. The 2021 911 Turbo S is alive, eager, and hungry. It needs its driver, rewards its driver, and bonds with its driver. Supercars don't usually do that. They're usually binary: They're sexy



2021 Porsche 911 Turbo S

PRICE	\$204,750
LAYOUT	Rear-engine, AWD, 2+2-pass, 2-door coupe
ENGINE	3.8L/640-hp/590-lb-ft twin-turbo DOHC 24-valve flat-6
TRANSMISSION	8-speed twin-clutch auto
CURB WEIGHT	3,650 lb (est)
WHEELBASE	96.5 in
L X W X H	178.6 x 74.9 x 50.9-51.3 in
0-60 MPH	2.3 sec (MT est)
EPA FUEL ECON, CITY/HWY/COMB	20/25/22 mpg (est)
ENERGY CONSUMPTION, CITY/HWY	169/135 kW-hr/100 miles (est)
CO2 EMISSIONS, COMB	0.88 lb/mile (est)
ON SALE	Winter 2020

putt-putting around town then transform into hair-on-fire affairs in the canyons.

No, the new 911 Turbo is a partner from the first corner until you pull into your driveway. This is the car you marry. You can order yours now, but it won't arrive at dealerships until late in the year. ■

THE 2021 PORSCHE 911 TURBO S IS ALIVE, EAGER, AND HUNGRY.



Although the third-generation Toyota Supra (A70) was the first to incorporate a turbocharged engine, it was an inline-six setup, which the model was known for, bringing 230 hp and 246 lb-ft of torque—a true sports car for the mid-1980s. And the A80 Supra of the '90s, with its JZ inline-six (with and without turbo) became the stuff of legend. Clearly, the Supra and an inline-six are inseparable.

After a 21-year hiatus in the United States, the Toyota Supra returned with its fifth generation, offering polarizing styling, sensational but quirky drive manners, and a powerful l-6 engine sourced from BMW. But things have changed for the 2021 year model. For the first time ever, Toyota is breaking the protocol by offering a Supra with a four-cylinder turbo engine.

Shattering a tradition like this by a brand known for staying in its lane is

bizarre. But Toyota saw an opportunity. By partnering with BMW and splitting the costs of co-developing the Supra and Z4, Toyota had access to BMW's dynamic 2.0-liter turbo-four engine, which would broaden the appeal of (and pricing accessibility to) its halo car.

Toyota already sells the four-cylinder Supra in Europe and Asia, but this is the first time it reaches U.S. soil, where it will slot between the performance-oriented Toyota 86 and the more powerful turbo-six Supra. U.S. pricing is under wraps, but in Germany the turbo-four carries a 15 percent price break.

But making a downmarket version of a performance car is risky, in that it can dilute the brand promise of the vehicle. It's not often that habits are broken in this industry, so we asked ourselves one

question: Does the four-cylinder Supra do its predecessors justice?

Like the 3.0-liter l-6, the turbo-four mill came from BMW. Shared with the current BMW 3 Series and Z4 sDrive30i, the 2.0-liter turbo-four produces 255 hp and 295 lb-ft and is mated to an eight-speed automatic that sends power to the rear wheels. International markets also get a lower-output four-cylinder option, but we Yanks only get the more compelling variant. In sad news, no manual transmission is coming any time soon.

Our four-banger Supra is 200 pounds lighter than the six-cylinder, give or take, and most of that weight was lost by cutting two cylinders from the engine. The Supra 2.0 also lost weight given the absence of an adaptive suspension and the active differential, both of which are

BREAKING PROTOCOLS

DOES THE FOUR-BANGER DELIVER THE SAME THRILLS AS THE INLINE-SIX?

WORDS MIGUEL CORTINA PHOTOS DARREN MARTIN

standard with the inline-six. The lower weight helps the turbo-four sprint to 60 mph in 5.0 seconds, per Toyota, putting it behind the 3.0-liter by about 1.1 seconds. For now, we'll have to take Toyota at its word, but we'll be running the numbers ourselves soon.

So how does the four-cylinder Supra drive? On Malibu's twisty canyon roads, the car sticks to the ground, feeling planted even from the rear end. Toyota made some chassis tuning changes compared to the 2020 model, and that shows in the tight corners. During our Best Driver's Car competition (which you can binge watch now for \$1 a month on the MotorTrend app), we complained about the rear end oscillating too much. Toyota listened and fixed it. The bumpy curves of Mulholland Highway didn't bother the Supra, which demonstrated good body control at all times.

The Supra's proper body control is complemented by its steering, which feels precise and balanced for a GT car. We have also complained about the Supra's steering of past occasions, but the steering on the four-banger feels slightly more decisive and quicker—especially on canyon roads. We credit the weight loss, most of which came off the front axle.



The I-4 engine in the Toyota Supra 2.0 is the first four-cylinder in the model's history.

Body control and steering are well tuned, but the suspension is too rough for everyday driving. My body caught air a couple times on the 405 freeway, and during my romp on Mulholland, my head hit the ceiling when I drove over a dip. (As there's no adaptive suspension, the ride itself can't get any worse—or better.)

The peppy 2.0-liter engine and the eight-speed still deliver a lively drive. Of course, the reduced power is notable, but the turbo-four is fun. Although the

transmission upshifts quickly, it's a tad slow to downshift. Sport mode will make the engine rev to higher rpm, and the transmission will hold gears longer and act like it's rev-matching on downshifts.

One sad thing is that lifting off the throttle in Sport mode won't trigger the raucous pops and crackles of the I-6 Supra; yes, they're purely theatrical, but they're cool. Toyota should also consider adding more sound deadening materials; the interior gets a lot of road noise.





2021 Toyota GR Supra 2.0

BASE PRICE	\$43,000 (est)
LAYOUT	Front-engine, RWD, 2-pass, 2-door hatchback
ENGINE	2.0L/255-hp/295-lb-ft turbocharged DOHC 16-valve I-4
TRANSMISSION	8-speed automatic
CURB WEIGHT	3,200 lb (est)
WHEELBASE	97.2 in
L X W X H	172.5 x 73.0 x 51.1 in
0-60 MPH	5.0 sec (mfr est)
EPA FUEL ECON, CITY/HWY	25/32 mpg (est)
ENERGY CONSUMPTION, CITY/HWY	135/105 kW-hr/100 miles (est)
CO2 EMISSIONS, COMB	0.70 lb/mile (est)
ON SALE	June 2020

Another difference between the four- and the six-cylinder Supras lies in the brakes. Toyota equips the 2.0 with smaller front rotors and fits single-piston sliding calipers instead of four-piston front monoblocs. Despite these changes, braking power still feels robust, but we'll have to wait for our own numbers to quantify the difference. (The Launch Edition we tested stopped from 60 mph in 99 feet.)

As the new entry-level Supra, the four-cylinder model has a few key differences that lower the equipment level. Instead of power-adjusted seats, drivers must manually adjust their seating position. The standard audio system has only four speakers. Other features like Apple CarPlay and radar cruise control, which are standard on most Toyotas these days, are only available with the Safety and Technology package (Android Auto is not available). That package also adds a blind-spot monitor, parking sensors, navigation, a 12-speaker JBL premium audio system, and something called Supra Connected

Services, which is a concierge service that also includes remote locking and ventilation control, traffic updates, stolen vehicle recovery, and automatic emergency calling.

The good thing, though, is that Toyota ditched the 6.5-inch display of 2020 models in favor of a bigger 8.8-inch touchscreen, which is standard on all 2021 models. But besides that, you won't see many differences—the center console, infotainment, and dash are the same as in the Supra 3.0; you get the same design, fonts, controls, and graphics as BMW.

As in many sports cars, the interior is small, but here it doesn't feel cramped. Headroom is just enough for a 6-foot adult, and shoulder room is decent. The small side windows reduce lateral visibility, and although the seating position is low, visibility to the front is acceptable.

The most important thing is that the Supra continues to turn heads in places like Malibu, where sports cars meander like chickens in a cluster. During my drive, two people stopped jogging on the side of the road when they saw the Supra coming, incoming cars flashed their headlights, and drivers showed thumbs-up. Now it will do it for less money. How much? We don't know yet, but it will be less than \$50,000, which is the price of the 2020 Supra 3.0.

It's hard to pay tribute to your predecessors when the world we live in is completely different from the one 20 years ago or more, but with a turbo-four under its hood, the Supra lives up to the hype and delivers excitement to those who seek it. ■



The overall look of the cabin doesn't change in the new entry-level Supra, though the seats are manual and there are fewer technologies available.

2021 Toyota Supra 3.0

Being first in line doesn't always get you the best seat in the house

WORDS CHRISTIAN SEABAUGH PHOTOS JADE NELSON

The 2021 Toyota GR Supra 3.0 is the car Toyota ought to have launched last year. There, I said it.

If you're one of the well-heeled among us who paid an excessive dealer markup on a 2020 Toyota GR Supra Launch Edition, well, sorry. Patience is a virtue and all that. The 2021 Supra 3.0 is more powerful, yes, but more important, it's more rewarding and just plain better to drive both around town and on a good winding road than the debut model.

Before we get too far into what changes Toyota made to the 2021 Supra and why they make it so much better to drive than the 2020 Supra, it'd be a worthwhile endeavor to look at what was wrong with the first year of fifth-generation Supras. The Supra's 12th-place finish at our 2019 Best Driver's Car competition was largely due to its poor suspension tuning.

On anything but a glass-smooth road or racetrack, the 2020 Supra was a rolling example of Isaac Newton's third law of motion, which, to save you a Google, states that every action has an equal and opposite reaction. In the Supra's case, every bump, touch of the wheel, or brush of the throttle or brakes had the rear end

gyrating up and around the rear axle. The secondary oscillations then caused the front end, as international bureau chief Angus MacKenzie so eloquently put it, "to follow every single contour like a bloodhound on meth." That even Randy Pobst—a two-time Daytona 24 winner and three-time World Challenge GT champion—had a "moment" in the Supra says it all.

So what has Toyota changed on the 2021 Supra? It's retuned the chassis and damper tuning, for starters. Then it changed the electric power steering, adaptive variable suspension, electronic stability control, and active differential programming. And finally, it added new front and rear bumpstops and aluminum braces that increase lateral rigidity. The end goal of these not-insignificant changes, Toyota says, was to increase roll resistance and improve cornering stability.

Making full use of its partnership with BMW, Toyota made some changes under the hood, as well, increasing the output of the 3.0-liter turbocharged I-6 to 382



hp and 368 lb-ft of torque, up from 335 hp and 365 lb-ft in the 2020 model. The Supra's standard eight-speed automatic is unchanged.

For the 2020 owners who feel like they missed out on an extra 47 horsepower, fret not—Toyota claims the 2021 Supra 3.0 will accelerate from 0 to 60 mph in 3.9 seconds, a figure we matched in the 2020





If you want to really challenge yourself, we suggest playing "find the Toyota parts" in the Supra's interior.



2021 Toyota GR Supra 3.0 (Premium)

BASE PRICE	\$51,500 (est)
LAYOUT	Front-engine, RWD, 2-pass, 2-door hatchback
ENGINE	3.0L/382-hp/368-lb-ft turbocharged DOHC 24-valve I-6
TRANSMISSION	8-speed automatic
CURB WEIGHT	3,400 lb (mfr)
WHEELBASE	97.2 in
L X W X H	172.5 x 73.0 x 50.9 in
0-60 MPH	3.9 sec (mfr est)
EPA FUEL ECON, CITY/HWY	22/30 mpg (est)
ENERGY CONSUMPTION, CITY/HWY	153/112 kW-hr/100 miles (est)
CO2 EMISSIONS, COMB	0.78 lb/mile (est)
ON SALE	June 2020



car. I wouldn't expect more than a tenth of a second improvement for the 2021 model.

Not only does the uprated turbocharged I-6 feel like the same Supra as before from the seat of the pants, but the extra power is also unlikely to provide a noticeable payoff at the test track. There's just a breath of initial turbo lag followed by a steady surge of power as you climb to the six-cylinder's 7,000-rpm fuel shut-off—the engine's glorious, throaty wail accompanying you as speed builds. The Supra's eight-speed is great when left to its own devices in both its default and Sport drive modes. It shifts quickly and intelligently, though I did find myself grabbing the steering wheel-mounted paddles more than a few times so I could let its engine sing.

The 2021 changes really make themselves known on a good winding road. Gone is the tail-wagging-the-dog sensation of the 2020 Supra. In its place is finally a planted, composed sports car experience. The Supra's chassis now settles nicely into a bend and tracks predictably, its firm but never harsh active suspension helping the Toyota feel planted and balanced.

Because you're no longer chasing the Toyota's rear end, you can actually focus

on your steering inputs. The Supra's steering isn't quite as light and nimble as you'd expect given the Supra's svelte lines and national origin (well, badging). It's accurate and precise, but it has a distinctively Germanic heft to it that's out of character with the sombrero logo on the nose—that's more of an observation than a criticism, to be clear.

Regardless, the Supra's steering is more linear and progressive when in Sport mode and more eager to rotate with a little throttle application thanks to the active rear differential. The Toyota's default drive setting, in comparison, is like putting a blanket over a hi-fi home stereo system.

So how much does the new and improved Supra cost? Who knows? Toyota isn't talking pricing as of press time, but I can't imagine it'll cost anywhere near as much as what some early Supra buyers paid. Best guess is a minor price increase over the 2020 Supra 3.0's \$50,945 starting price, which, though fair, still puts the 2021 GR Supra 3.0 up against tough customers like the Chevrolet Camaro SS 1LE, Ford Mustang GT PP2, and BMW M240i.

Back when the 2020 Supra was introduced, Toyota promised that "driving enthusiasts can look forward to an exhilarating blend of power, precision, and agility thanks to a rear-wheel-drive design that honors Toyota sports car heritage." With the 2021 Supra 3.0, Toyota finally delivered on that promise. ■

IT SHIFTS QUICKLY AND INTELLIGENTLY, THOUGH I FOUND MYSELF GRABBING THE PADDLES MORE THAN A FEW TIMES SO I COULD LET ITS ENGINE SING.





Spa-Francorchamps, Belgium. It's cold up here on the Raidillon, a biting wind whipping along the Kemmel Straight. The views back down the fearsome Eau Rouge, the most famous corner in modern Formula 1, are frosted with snow. My gaze drifts across to the 2020 McLaren GT—a long, low, luscious bullet designed to crush continents at warp speeds—and I wonder what Bruce would have thought of it.

Bruce was right here 52 years ago, though he would have been too busy to be staring at cars, no matter how gorgeous. You see, on the afternoon of June 9, 1968, New Zealand-born Bruce Leslie McLaren was dancing his neat little orange

McLaren M7A around the Spa-Francorchamps circuit en route to victory in the Belgian Grand Prix. Spa would be Bruce's fourth grand prix win and 21st podium in 79 starts. But it would also be the first victory for a Formula 1 car carrying the McLaren name.

More than a half century on, McLaren is one of the most storied names in F1 history, having notched up 182 wins, 12 Drivers' Championships, and eight Constructors' Championships. The McLaren GT is the product of a company spun off that success: McLaren Automotive will celebrate its 10th anniversary this year.

Bruce would have understood this transformation because when he was killed

testing the McLaren M8D Can-Am racer at Goodwood two years later, he also was working on a GT road car of his own—the McLaren M6GT.

The M6GT was little more than a race car made street legal, a coupe body mounted on an M6B Can-Am chassis, with a thundering mid-mounted Chevy small-block providing the motive power. Bruce planned to build 250 units. That plan died with him at Goodwood that day.

Unlike the M6GT, the 2020 McLaren GT was designed as a road car from the wheels up. Bruce would appreciate the race car engineering in it. The GT's carbon-fiber structure was pioneered by the McLaren MP4/1 F1 car in 1981 and



ROAD TRIPPING THE
2020 McLAREN GT

BRUCE WAS HERE

**IS IT A REAL GT?
WE DRIVE FROM
SPA TO REIMS, TWO
TRACKS WHERE
COMPANY FOUNDER
BRUCE MCLAREN WAS
VICTORIOUS IN THE
1960S, TO FIND OUT.**

WORDS ANGUS MACKENZIE

helps contribute to its impressively low mass. At just under 3,400 pounds, the GT weighs 150 pounds less than a Porsche 911 Turbo S, 700 pounds less than a Ferrari GTC4Lusso T, 800 pounds less than an Aston Martin DBS Superleggera, and three-quarters of a ton less than a Bentley Continental GT Coupe.

Less weight, as Bruce well understood, helps performance. Although the GT's 4.0-liter twin-turbo V-8 is in a softer state of tune than in the 720S—developing 612 hp and 465 lb-ft of torque instead of 710 hp and 568 lb-ft—McLaren claims it's still able to slingshot the car from 0 to 60 mph in 3.1 seconds.

That's similar acceleration to the 715-hp Aston. And right on that of the 602-hp Ferrari and 626-hp Bentley, too, both of which have the benefit of all-wheel-drive traction off the line. Of the above, only the 580-hp Porsche—with all-wheel drive and 61 percent of its weight on the rear wheels—is likely to be quicker than the McLaren GT.

Top speed? McLaren claims 203 mph, within a mile an hour or so of claims for both the Porsche and the Bentley. The GTC4Lusso T is said to hit 208 mph, while Aston says its mighty twin-turbo V-12 has the power to push the big DBS all the way to 211 mph. Outside Germany, however—and perhaps a few quiet, empty roads in the Middle East and sub-Saharan Africa—these numbers are meaningless. Suffice it to say the McLaren GT is a suitably fast gran turismo; faster, even, than Bruce imagined his M6GT (said at the time to be good for 165 mph) could be.

With challenging corners, dramatic elevation changes, and breathtaking





Pit lane and the grandstand still flank the road from Thillois to Gueux, outside Reims, just as they did when Bruce McLaren first raced here in the 1959 French Grand Prix.

high-speed sections, Spa-Francorchamps is, along with the Nürburgring Nord-schleife and Australia's Mount Panorama at Bathurst, a favorite among top race drivers. At 4.3 miles, it's the longest track of the modern F1 era and one of the fastest, with Ferrari driver Charles Leclerc averaging almost 153 mph on his pole-winning lap for last year's Belgian Grand Prix.

But it's a shadow of the 8.7-mile monster it was when Bruce raced here, at the time a track so fast that 1968 pole sitter Chris Amon's average speed was about the same as Leclerc's ... in a Ferrari with 40 percent the power, a manual transmission, steel brakes, and a fraction of the mechanical and aerodynamic grip.

In Bruce's day, the track continued straight past Les Combès, where the modern circuit dives precipitously downhill, and on to the town of Stavelot. It was—as it is today—a public road that swept off the ridge and down through the forest and into open farmland: flat-out, top-gear territory in a late '60s grand prix car. I'm struck, as the GT loafing along at 60 mph, by the total lack of run-off room:

ditches and fences and telephone poles and trees—even houses—lurk everywhere, right at the edge of the tarmac.

The Masta Kink is, at these speeds, a gentle left-right sweep punctuating two 1.5-mile straights. But three-time world champion Jackie Stewart, who crashed here in 1966, ending up upside down in the cellar of a farmhouse in his BRM, soaked in fuel, called it the most difficult corner in the world.

In 1968, Bruce would have arrived at the Kink at somewhere north of 180 mph and merely lifted, feathering the gas to steady the M7A through the left-hander before getting back on it for the right and threading the needle between houses on either side of the track to stay flat all the way to the sweeping right-hander at Stavelot.

I amble through in the leather-lined comfort of the GT and try to comprehend the skill, the talent—hell, the brass-balled bravery—that it required. Ernest Hemingway once said there are only three sports: bullfighting, motor racing, and mountaineering; all the rest are merely games. At the Masta Kink, you get it.

I stop for a photo at Stavelot corner, next to the old stone bridge Bruce raced past as he swept back toward La Source hairpin and another lap. Then I turn the GT southwest, toward the brooding dampness of the Ardennes Forest. Other than staying off the freeways, there's no fixed agenda: I look at the map on my iPhone, spot an interesting road, and then program the name of the village nearest to it into the McLaren's sat-nav—basically working my way toward France and Reims. The result is a 250-mile mix of fast, flowing two lanes, twisting mountain routes, lumpy old farm roads, and the occasional cobbled street.

Softer spring and damper rates mean the GT feels noticeably more compliant than the 720S; the more relaxed cadence of the pitch motions make it feel like it's riding on a longer wheelbase. On smooth roads I set the handling and powertrain settings to Sport, enjoying the crisper throttle and transmission response and the more concise body control. On rougher roads I leave the powertrain in Sport but switch handling to Comfort to allow the car to breathe over the bumps.

The GT has more ground clearance—4.3 inches—than the 720S, and the redesigned bodywork gives it a 10-degree approach angle, more like a performance sedan than a supercar. So even when I'm caught out by

GRAND PRIX GHOSTS WHISPER THROUGH THE OLD CONCRETE PITS AND GRANDSTANDS THAT LINE THE ROAD. LEGENDS RACED HERE.





the occasional hidden heaves and hollows, the McLaren's expensive underpinnings stay clear of the tarmac.

Never the most charismatic of engines, the 4.0-liter McLaren V-8 suffers from an industrial drone between 1,500 and 2,000 rpm on light throttle. It's all too audible in the GT, especially when cruising on smooth roads at 60 to 70 mph. The good news is it wakes up at 3,000 rpm and revs to 8,200, giving you plenty to work with when you want to have some fun. Between 4,000 and 6,000 rpm is its happy place: Crisp response and smooth thrust propel the GT down the road with rapid efficiency.

The seven-speed dual-clutch transmission can feel a little sleepy if left to its own devices. Switching to manual mode and working the paddles yourself fixes all that: Shifts are not only quick but also slick, even in Track mode, where McLaren's Inertia Push technology converts built-up flywheel energy into a momentary burst of torque on upshifts.

Grand prix ghosts whisper through the old concrete pits and grandstands that line the road from Thillois to Gueux, just outside Reims. Legends raced here—Nuvolari, Carraciola, Fangio, Moss, Clark, Gurney. Bruce McLaren, too. He finished fifth in the 1959 French Grand Prix on the blindingly fast 5.1-mile triangular road course, finishing in the points in only his third-ever appearance behind the wheel of an F1 car. Back then, Bruce was driving

2020 McLaren GT

BASE PRICE	\$213,195
VEHICLE LAYOUT	Mid-engine, RWD, 2-pass, 2-door hatchback
ENGINE	4.0L/612-hp/465-lb-ft twin-turbo DOHC 32-valve V-8
TRANSMISSION	7-speed twin-clutch auto
CURB WEIGHT	3,400 lb (mfr)
WHEELBASE	105.3 in
L X W X H	184.4 x 80.5 x 47.8 in
0-60 MPH	3.1 sec (mfr est)
EPA CITY/HWY/COMB FUEL ECON	15/22/18 mpg (est)
ENERGY CONSUMPTION, CITY/HWY	225/153 kW-hr/100 miles (est)
CO2 EMISSIONS, COMB	1.11 lb/mile (est)
ON SALE IN U.S.	Currently

a Cooper, the car that pioneered the shift from front- to mid-engine in Formula 1. The moss-green GT looks like a spaceship has landed in the old pit lane. But it shares elemental fragments of DNA with the car Bruce McLaren raced here 61 years ago.

Priced from \$213,195, the McLaren GT is more expensive than the Porsche 911 Turbo S (which starts at \$204,750: see pg. 54), but it costs less than the \$220,000 Bentley Continental GT, the \$260,000 Ferrari GTC4Lusso T, and the \$308,000 Aston Martin DBS Superleggera. And it looks the most exotic of the lot. But

what's most remarkable about the GT is that despite the leather-lined cabin, the 20.1 cubic feet of combined front and rear luggage space, and the 19-gallon fuel tank that gives it a 420-mile cruising range, it still feels like a mid-engine supercar—just as effortless through the air and as light on its feet as the 720S.

Yes, compared to the 720S, there's a little more understeer when you really start pushing hard, and the powertrain lacks its electrifying top-end bite. But this McLaren makes its rivals feel less balanced, less composed, as if they're having to work much harder to cover ground as quickly. There's also, in those cars, a subtle distance between you and the machinery that's notably absent in the McLaren. No, you're not hard-wired to the tarmac like you are in the 720S. But there's an immediacy to the GT, a constant dialogue between you and the car, that you simply don't get in the others.

That's its strength. And, for some, its weakness.

On anything but the smoothest roads, for example, the GT's steering wheel squirms busily in your hands the whole time. Enthusiast drivers will love knowing exactly what's going on where the tires meet the tarmac, but the relentless chatter might be a little wearing for those who expect their gran turismos to take care of business without highlighting every single detail of the task at hand.

Despite extra sound deadening, that engine drone is annoyingly intrusive. And there's still plenty of tire noise, especially on coarse tarmac or concrete. The GT comes with a fancy Bowers & Wilkins audio system, but unless you're stuck in traffic, you'll never appreciate its fidelity.

Although its construction, technology, and layout are state-of-the-moment, the McLaren GT is at heart an old-school grand tourer, a car whose raw driver appeal is overlaid with a veneer of creature comfort. Come to think of it, that's exactly what the M6GT would have been. Bruce would approve. ■



The Bugatti Chiron Super Sport 300+ is the fastest road car in the world, boasting a top speed of more than 300 mph. Lotus claims its forthcoming all-electric Evija will have 1,972 horsepower, making it the most powerful road car ever built. And the Czinger 21C, said to be able to sprint from 60 mph in under 1.9 seconds, promises to be the quickest hybrid road car in history.

One-upping your well-heeled buddies is getting tougher by the day. Spending \$1.7 million on an 804-hp mid-engine roadster that doesn't have a windshield? That'll get them talking.

Enter the 2021 McLaren Elva. I'm sitting in the passenger seat, on a blustery winter day in the south of England, taking

in triple-digit speeds with McLaren test driver Kenny Bräck.

We've already given you a brief overview of this car, the newest—and perhaps most controversial—car in McLaren's Ultimate Series lineup, just 249 of which will be built. But now we've ridden in an early prototype and can answer the question you all want to ask: Yes, the F1-inspired aero technology McLaren says will isolate the Elva's occupants in an invisible "bubble of calm" from 30 mph to 70 mph seems to work.

How? Air entering the large intake at the front of the Elva is directed through a series of vanes and turned through 130 degrees, exiting at high speed through a large vent on the front deck. The force of

that airflow, combined with the effect of a Gurney flap that deploys at the leading edge of the vent at 30 mph, creates an invisible wall of air that pushes the air streaming over the Elva's front deck up and over the heads of occupants. An invisible windshield, if you will.

McLaren says you'll be able to drive the Elva at normal road speeds without wearing a full-face crash helmet. And a ride with test driver Bräck at Dunsfold, home of the Top Gear test track, on a cold and blustery winter's day, confirmed McLaren's Active Air Management System (AAMS) dramatically slows the air flowing through the cockpit.

You might not need a full-face helmet under 70 mph, but wearing glasses or goggles is still a good idea—the complex system of turning vanes buried in the Elva's bodywork, tuned using the same

ELVA HAS LEFT

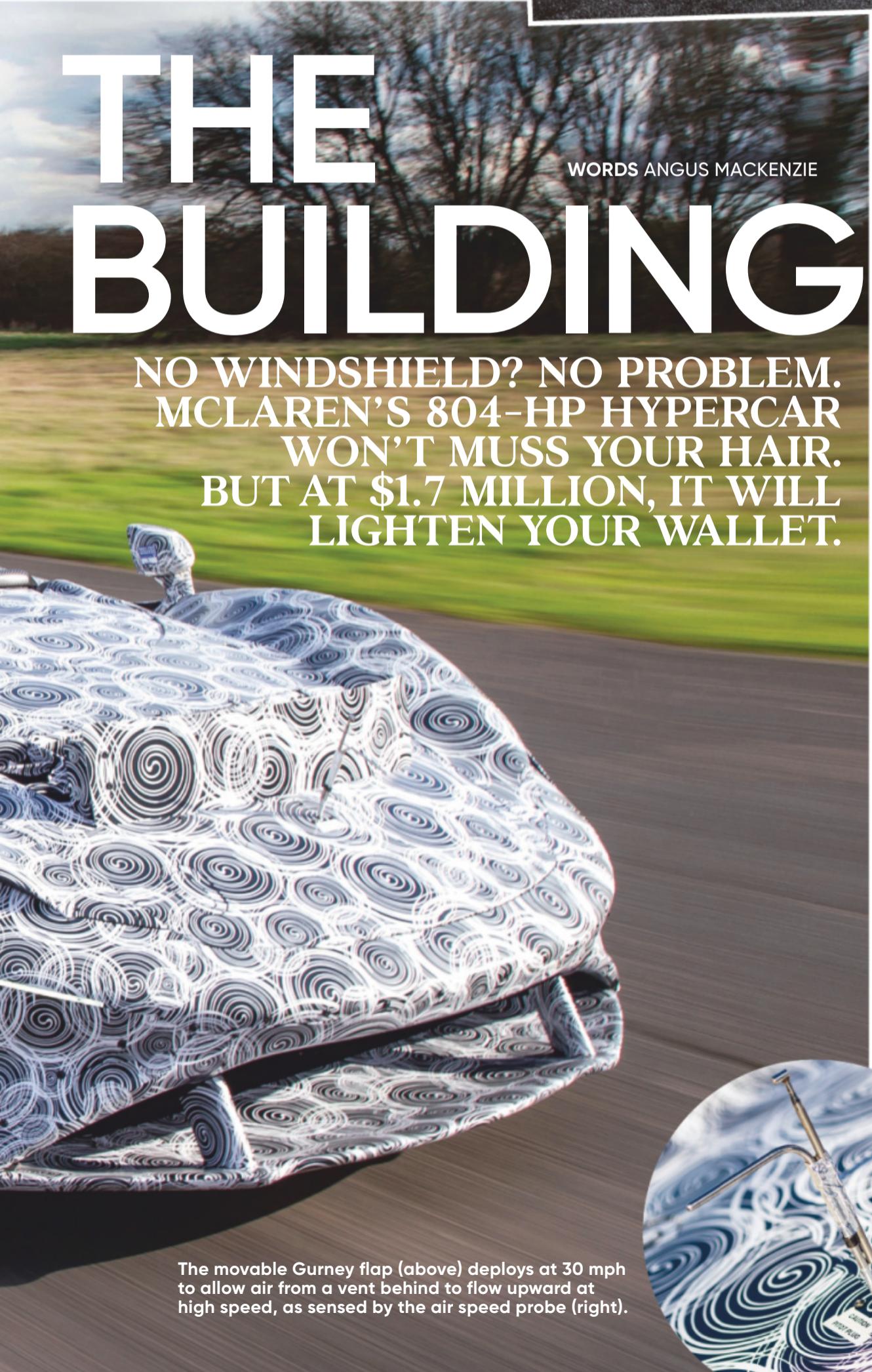




THE BUILDING

NO WINDSHIELD? NO PROBLEM.
MCLAREN'S 804-HP HYPERCAR
WON'T MUSS YOUR HAIR.
BUT AT \$1.7 MILLION, IT WILL
LIGHTEN YOUR WALLET.

WORDS ANGUS MACKENZIE



The movable Gurney flap (above) deploys at 30 mph to allow air from a vent behind to flow upward at high speed, as sensed by the air speed probe (right).

techniques that direct airflow with millimetric precision on a McLaren F1 racer, is not much good against gravel flung off the tires of other vehicles.

Code-named P26, the Elva is explicitly designed to deliver a visceral driving experience, according to McLaren's head of global product management, Ian Digman. And, he says, its mission statement complements those of both its McLaren Ultimate Series stablemates, the Senna and the Speedtail.

"The Senna is raw, stripped-out, focused, with incredible downforce; it's purely about delivering that ultimate lap time," Digman says. "The Speedtail uses pioneering hybrid technology to deliver more than 1,000 horsepower and incredible straight-line speed in absolute refinement." And the Elva? It's a car that doesn't need a racetrack and doesn't need a destination. "The sole purpose of it is for the pleasure of driving. It is a car that connects you back with the elements."

Named after the customer versions of McLaren sports racers built by British sports car manufacturer Elva during the 1960s, today's Elva is built from a tried and true selection of McLaren hardware.

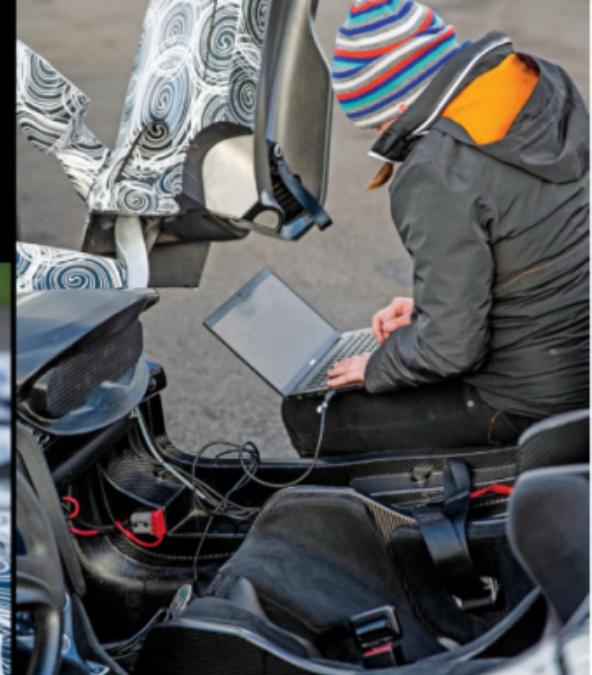
The carbon-fiber tub is based on that developed for the 720S and evolved for the Senna, as are the suspension and powertrain. The all-new carbon-fiber open-top bodywork is the most voluptuous yet seen on a McLaren road car, with deeply sculpted bodysides, generous hips over the rear wheels, and softly curved streamlining humps behind the seats. It's sensual, but functional, too—the profile of the bodyside helps manage airflow past the front wheels and guide air into intakes ahead of the rear wheels.

The pronounced front fender peaks help you place the car accurately on the road.

With no A-pillars, no curved windshield, and no arching roofline, the Elva has

McLaren test driver Kenny Bräck explains Active Air Management. Without the Gurney flap in place, increased airflow is dramatic.

High-strength aluminum bars provide rollover protection. Fixed in place on the prototype Elva, they will be hidden on the production car and instantly deployed into place if a rollover is sensed.



less of a cab-forward stance than other McLarens. The front and rear graphics are unique, too. The slimline headlights frame a large under-bumper air intake and are shrouded by a signature line that hints at the gaping eye sockets of a 720S. The rear end is dominated by a mesh fascia that allows maximum heat evacuation from the engine compartment, along with an intricate assortment of diffusers.

Like other McLarens, the Elva is equipped with an active rear wing. In addition to acting as an airbrake under heavy braking, the wing also automatically compensates for changes to front axle lift when the AAMS Gurney flap deploys, to maintain the car's aerodynamic balance.

The liminality of the cockpit—neither “interior” nor “cabin” accurately describes where the occupants sit—is one of the most intriguing aspects of the Elva. The outside surface of the car washes over the dash and doors then plunges down between seats, blurring the ambiguous line between inside and out. The instrument panel is in a binnacle that houses the digital instruments and puts the powertrain and handling setting controllers within fingertip reach of the driver.

Higher than usual sills—to improve rigidity and side impact resistance—mean the doors are shallow, which also makes them lighter. You step up and over the sills and stand on the floor before you snuggle

down into seats, whose squabs have been shortened. On production Elvas the instrument binnacle and steering wheel will also retract out of the way to help make entry and exit easier for the driver.

With no windshield and no roof, the Elva is most definitely not a sports car for a rainy day, but the seats are trimmed in a breathable material than McLaren says is water resistant. Same, too, with the audio system’s speakers, which will be mounted behind the occupants’ heads. Although it’s open to the elements, the production Elva will also come with a full HVAC system.

The lack of a windshield makes rollover protection more difficult, but 12-inch-long pylons hidden in the humps are deployed in the event of a crash. (They were fixed in the crash position on our prototype.) McLaren says the Elva can be sold in the U.S. without a windshield even though in some states it cannot be driven on the road without one. A specifically designed windshield will be available as a no-cost option; with it, the AAMS system is deleted.

At the Elva’s heart is an 804-hp version of McLaren’s 4.0-liter twin-turbo V-8. That’s 15 hp more than the engine

AT THE ELVA’S HEART IS AN 804-HP VERSION OF MCLAREN’S 4.0-LITER TWIN-TURBO V-8.

produces in the Senna, courtesy of different air intake and exhaust systems. Torque remains the same—590 lb-ft—as in the Senna, and the seven-speed dual-clutch automated manual has the same ratios as the million-dollar track rat.

The brakes—15.4-inch carbon-ceramic rotors all around—are also lifted from the Senna, and the suspension has the same architecture, though spring, damper, and anti-roll-bar rates are all unique, tuned to work with the lighter curb weight. Steering has been tuned to deliver extra response from the lightly loaded front axle.

Digman confirms the Elva will weigh less than the 3,011-pound Senna. More power and less weight means the topless McLaren will be a stormer—quicker in a straight line than even the Senna. The claimed 0–60 time is less than 3.0 seconds (the Senna posted a 2.9-second time in our testing), with 124 mph coming up in 6.7 seconds. No word on top speed, but you can be confident it will be fast enough to peel your cheeks off if you’re not wearing the full-face helmet McLaren recommends at speeds above 70 mph.

The Elva runs smaller-section tires than most comparable supercars: 245/35 ZR19 at the front and 305/30 ZR20 at the rear. “That ties to the intention of the car,” McLaren director of engineering design Dan Parry-Jones says. “It should be quite playful, quite lively, quite agile. The Elva is not about ultimate grip. It’s about having the most fun, engaging experience.”

After a couple of laps around Dunsfold alongside McLaren test driver Gareth Howell—Gurney flap off and helmets on—the Elva certainly feels playful, lively, and agile from the passenger seat. And the view is extraordinary; you’re right there, in widescreen, the tarmac rushing at you as 804 hp slingshots you to the next apex.

The McLaren Senna truly is a race car you can drive on the road. Based on our brief ride, the McLaren Elva is going to make you feel like you’re driving a race car on the road—even when driving it at speeds that won’t get you arrested. ■



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Updates on our long-term fleet

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**EPA City/Hwy/Comb Fuel Econ
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"Meet the latest, costliest, and bounciest member of our long-term fleet." Jonny Lieberman

Base price \$62,745 As tested \$89,385

It finally happened. After much resistance over nine years and eight months of continuous employment at *MotorTrend*, I'm stuck chaperoning a long-term SUV. The horror, the horror.

What am I faux complaining about? I just don't like SUVs. There, I said it. I like cars. Really, I love cars. When I was 12 years old and dreaming about what I'd do when I grew up (still waiting on that last bit), I never imagined I'd be writing about what appliance is the best to lug the kids to soccer practice.

What about *real* SUVs, you ask? I like those! Jeep Wranglers, Toyota Land Cruisers, Mercedes-Benz G-Wagens—those are cool!

Locking differentials, live axles, low gears, it's all fascinating stuff. As I always say when asked: When my ship comes in, the first idiotic thing I purchase is a multi-hundred-thousand-dollar Icon FJ.

But a minivan chopped to look like an SUV? Yawn. Pass.

Pity party over, it's time to face reality and introduce you to my \$89,385 friend for the next 12 months, a Lunar Blue Metallic over Espresso/Magma Grey 2020 Mercedes-Benz GLE 450 4Matic.

The GLE 450 4Matic trim can, in theory, be had for \$62,745. Yes ma'am, we're talking \$26,640 in *options*. Craziest part? There's a \$78,595 GLE 580 that sits above the 450, as well as

the fire-belching, 603-hp, \$114,945 AMG GLE 63 S. I'm compelled to point out that the least pricey way to get into a GLE is via the \$55,245 GLE 350 (rear-drive, 2.0-liter I-4).

So no, my version doesn't have a twin-turbo V-8. I'll have to figure out how to survive with only 362 horsepower and 369 lb-ft of torque from a 3.0-liter electric-supercharged and turbocharged inline-six with hybrid assist. And it's accessory-free via a 48-volt electrical system. The sacrifices we all make, am I right?

Anyhow, Mercedes are expensive. In other news, water is wet. Still, \$26,640

is a large chunk of change for non-powertrain options. Why, for that much you could purchase a new Honda CR-V and pocket \$470. Could these options be worth it?

Before we get to the most expensive option, let's examine what's arguably the most important: the \$2,250 Driver Assistant package. Listing out every feature that's included with this option pack would waste ink, but essentially it's all your active, pseudo-autonomous stuff. Radar cruise control, lane keeping, hands-free steering, automatic braking—that sort of thing.

If you've never experienced these sorts of features first-hand, they might sound pointless and therefore pointlessly overpriced. However, if after a long day you've ever slogged through somewhere like downtown Los Angeles at the height of rush hour with said systems fully activated, you'll agree that Mercedes is undercharging.

That said, the feature called Route-Based Speed Adaptation may force me to abandon this Merc at some point by the side of the road. Let's say you have the cruise control set at 73 in a 65-mph zone (just flowing with traffic, officer) and you cross into a 55-mph zone. The cruise control automatically drops you down to 55 even though no one else slows down at all. Hyper annoying. I despise it.



CHRYSLER PACIFICA



GENESIS G70



HONDA INSIGHT



HYUNDAI KONA



JEEP WRANGLER



KIA SOUL



KIA TELLURIDE



MAZDA3



MERCEDES-BENZ GLE 450 ARRIVAL



NISSAN KICKS UPDATE



RAM 1500 LARAMIE



SUBARU ASCENT



TOYOTA RAV4 UPDATE



VOLVO S60 UPDATE



2018 Nissan Kicks



Service life:

10 mo/17,659 mi • Avg Fuel Econ: 30.3 mpg

"The CVT responds quickly and extracts maximum acceleration from the tiny four-pot's meager output."
Stefan Ogbac

Avg CO2 0.64 lb/mi **Energy cons** 112 kW-hr/100 mi
Unresolved problems None **Maintenance cost** \$190.05
 (2-oil change, inspection, tire rotation) **Normal-wear cost** \$0
Base price \$21,635 **As tested** \$23,000 **EPA City/Hwy/Comb Fuel Econ** 31/36/33 mpg **Real MPG** 32.8 mpg comb

We've lived with the 2018 Nissan Kicks for almost a year now, and it's been a faithful daily driver since its arrival. It's made runs up and down California for camping and other adventures. This year, the Kicks' sedan sibling arrived, and buyers in search of affordable transportation now have another Nissan choice. I got to drive the 2020 Nissan Versa and found that despite its commonality with the Kicks under the skin, the driving experience differs significantly.

On the road the Versa isn't just a Kicks turned into a sedan. Its chassis feels more compliant and isolated compared to the Kicks. The Versa also misses out on Nissan's intelligent trace control, intelligent engine brake, and active ride control systems, all of which give the Kicks better road manners.

Despite using the same 1.6-liter I-4 and CVT, the Kicks' engine and transmission operate with a willingness that you don't expect from something with only 125 hp and 115 lb-ft of torque. (Output

dropped to 122 hp and 114 lb-ft starting with the 2019 models.) The CVT responds quickly and extracts maximum acceleration from the tiny four-pot's meager output. In the Versa, the same combo behaves in a more relaxed manner.

Our long-term Kicks lacks the full driver assistance tech suite added for 2020, which came standard on the new Versa. Even with all those new standard features for its 2020 update, the Kicks still doesn't get adaptive cruise control, which is available as part of the Convenience package on the range-topping Versa SR.

So which one should you get? It depends on your needs. If fuel economy is at the top of your priorities, pick the Versa. It has all the collision prevention features you expect, superior fuel economy (EPA rated at 32/40/35 mpg city/highway/combined), and a larger fuel tank. However, if you want to maximize practicality in a small package or want something that's a little more darty on the road, go with the Kicks.

Other options I like besides the paint (\$720) and the fancy interior (\$1,620) are the 21-inch AMG wheels (\$1,000), MB-Tex (high-quality fake leather) on the dash and door (\$700), massaging seats (\$1,100), and a Burmester sound system (\$850). It also has cooled (\$450) and heated (\$450) seats.

I'm quite torn on the \$1,000 panorama roof. I like when it's rainy season and I get to drive around with water bouncing off the glass roof. However, in L.A. rainy season lasts a month, and it's still too hot most days, so the cabin gets thermally overloaded due to the massive glass roof. And there's only a sunshade, not a full cover. I predict by August I'll glue AstroTurf to the roof.

I suppose the \$3,250 AMG Line Exterior package (black diamond grille, body-colored wheel arches, painted calipers)

is worth the scratch. People keep telling me it looks good.

Now, here's the buried lede. The *real* reason this particular GLE 450 has such a large as-tested price is because of E-Active Body Control, part of the \$8,200 E-Active Body Control package, which includes air suspension, underbody armor, and fast-acting, 48-volt hydraulic dampers that smooth out the ride and help it corner and generally handle better.

But never mind any of that. E-ABC has a mode that lets the thing bounce up and down like a bona fide lowrider! What's it really for? Freeing the stuck vehicle from sand. What am I gonna use it for? Bounding through the parking lot at my kid's day care. Hit the switches! Bouncy bounce! Talk about gotta-have-it tech. Looks like I'll enjoy 12 months living with an SUV, after all.

SPECS **Vehicle Layout** Front-engine, AWD, 5-pass, 4-door SUV
Engine 3.0L/362-hp/369-lb-ft turbo- and e-s'charged DOHC 24-valve I-6, plus 21-hp/184-lb-ft electric motor; 362 hp/369 lb-ft comb
Transmission 9-speed automatic
Curb Weight 5,450 lb (est)
0-60 MPH 5.6 sec (MT est)
Energy Cons, City/Hwy 177/140 kW-hr/100 miles
CO2 Emissions, Comb 0.93 lb/mile



Height 70.7"

Width 76.7"

Length 194.3"

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MT GARAGE

2019 Volvo S60



Service life:
6 mo/12,814 mi • Avg Fuel Econ: 24.6 mpg

"On its second cross-country trip, the S60 proved a comfortable and safe cruiser." Miguel Cortina

The Volvo S60's center-mounted touchscreen has lots of functionality once you master the interface.

Avg CO2 0.79 lb/mi Energy cons 135 kW-hr/100 mi Unresolved problems None
Maintenance cost \$0 Normal-wear cost \$0 Base price \$40,300 As tested \$50,630
EPA City/Hwy/Comb Fuel Econ 21/32/25 mpg **Real MPG** 22.9 mpg comb

Covering 3,555 miles in two weeks sounds like a lot of driving. And it is. In short, that's how much distance my brother and I covered in our long-term 2019 Volvo S60 from L.A. to Houston and back during the holidays to visit my family. The road trip allowed us to see some of America's spectacular sights while I tested a few features that we hadn't had the chance to.

Starting in L.A., we headed east on I-10 and stopped in Phoenix for lunch with a friend. After a five-hour drive, the S60 proved to be quite comfortable, and I found myself using the Pilot Assist semi-autonomous feature whenever I needed to open my water bottle or eat a snack. The system worked really well, keeping the car centered in its lane and following the car ahead of it with no issues. You can leave your hands off the steering wheel for about 10 seconds before the alarm tells you to grab it.

If there was anything to complain about, it was the lack of a sunshade extender, which my brother missed on the way to Texas and I did on the way back. Without the extender, sun shines through a little gap and hits the back of your ear; it gets pretty hot when you're driving for hours facing the same way.

After lunch and some shopping in Scottsdale, we continued on to Tucson to spend the night. Thanks to the short winter days, we were driving in the dark, but the LED lighting and auto-dimming rearview mirrors made the ride pleasant.

An early wake-up call had us on the road by 6:30 a.m., and we continued on I-10 until we got to Las Cruces, New Mexico, where we diverted north on Route 70 toward White Sands National Park. The sand dunes are great for photos, and you can even go tubing if you'd like.



Because of our tight schedule we were only at White Sands for a couple of hours. After that we headed east through the Lincoln National Forest, which provided great vistas and fun roads to drive on. Unfortunately, once you've passed through that forest, the drive becomes quite boring until you get to Midland, Texas, our last overnight before Houston.

The seven-hour drive between Midland and Houston was way more fun than I expected. God bless Texas and its high speed limits. It was here that we really noticed the S60's performance; it delivered great power for passing on the two-lane highways. The 2.0-liter engine and eight-speed tranny worked well together, the gearbox downshifting precisely when it needed to.

On the way back, as we were leaving Santa Fe, the car in front of me came to a dead stop on the merging ramp on the freeway. If it wasn't for the automatic emergency braking, we would've had a collision. The Volvo applied the brakes and sent an audible and visual alert, preventing any kind of contact.

After dozens of podcasts and playlists, plenty of conversations, and more than 45 hours of driving, we covered 3,555 miles and visited four states in two weeks. This was a road trip to remember, and the Volvo S60 and my brother are real champs for not complaining.



2019 Toyota RAV4



Service life:

5 mo/10,088 miles • Avg Fuel Econ: 27.6 mpg

"Through the first half of our loan, our RAV4 has been even more efficient than its EPA numbers suggest." Kelly Lin



How quick is the Toyota RAV4? We took it to the track to find out.

Avg CO2 0.70 lb/mi Energy cons 120 kW-hr/100 mi Unresolved problems None Maintenance cost \$0 Normal-wear cost \$0 Base price \$29,945 As tested \$31,509 EPA City/Hwy/Comb Fuel Econ 25/33/28 mpg Real MPG 29.2 mpg comb

The Toyota RAV4 achieves competitive fuel economy in its segment, if you look at the EPA numbers. But as we know, these official figures don't always reflect real-world driving. So how efficient is the RAV4, really? We conducted our own fuel economy test to find out.

The 2019 Toyota RAV4 AWD in our long-term fleet is EPA-rated at 25/33/28 mpg city/highway/combined. But our Real MPG results came in at 24.2/39.1/29.2 mpg, falling a bit short in city driving but well exceeding the EPA's highway and overall figures. This also makes the RAV4 more efficient than our long-term 2017 Honda CR-V Touring AWD, which scored 21.9/34.2/26.1 mpg. Pretty impressive. Not quite as impressive as the hybrid RAV4's figures, though; unsurprisingly, the electrified RAV4 returns significantly higher EPA ratings, at 41/38/40 mpg—though Real MPG hasn't tested the hybrid yet.

Separately, we took the RAV4 to the track for acceleration testing. Here, it ran from 0 to 60 mph in 8 seconds flat. In comparison, the CR-V is particularly quick in its competitive set, hitting the mark in 7.5 seconds.

Both the CR-V and our long-term gas RAV4 recorded respectable braking numbers; the Toyota required 121 feet to come to a complete stop from 60 mph, and the Honda took 115. Associate road test editor Erick Ayapana praised the RAV4 for its crisp pedal feel and steady body control. However, the hard braking produces "lots of ABS chatter."

"Fun" and "playful" are the words that road test editor Chris Walton used to



Along with strong fuel economy and acceptable performance, the Toyota RAV4 offers plenty of room in back for your gear.

describe the RAV4's behavior on the figure eight, where its 27.6-second, 0.61 g average performance bested the CR-V (28.0 seconds at 0.60 g). He also praised how well the engine and transmission worked together.

"In Sport mode with traction control and stability control off (and truly off, by the way), it doesn't mind blending the braking into cornering, even sliding a bit, with good yaw control," he noted. "The steering isn't very talkative, but it does make the RAV4 go where it's asked to. Overall, it's a fun little runabout vehicle."

Although it's engaging around the figure eight, we have a few reservations about the RAV4's overall driving dynamics. The crossover feels a bit slow passing traffic on the highway, and pressing hard on the accelerator produces an unpleasant groan from the engine. We also prefer the CR-V's smoother ride, which is one of the reasons the Honda won our most recent compact SUV Big Test.



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Despite being a front-drive BMW, the X2's exterior styling is rich in brand DNA, even more so with the added M Sport X package.



Verdict: 2018 BMW X2 sDrive28i



"Long-term testing often reveals a vehicle's hidden personality traits. After a year with the X2, the engine stop/start system is one I'd like to see disappear."

Brian Vance

Base price \$37,395 As tested \$44,920

Service life: 14 mo/20,639 mi
Avg Econ/CO2 24.6 mpg/0.79 lb/mi

Four months into this yearlong test was about the time I gave up on trying to define what class or segment the BMW X2 belonged to and instead just focused on experiencing it. To pigeonhole it into a segment or class would be doing it a disservice because it's clear BMW didn't aim to mimic another vehicle. Instead, it set out to create a unique product aimed at drivers looking for a little utility coupled with handsome curb appeal.

There are many distinctive aspects and much to enjoy in this attractively styled CUV. Although it shares a platform with the down-market Mini Countryman and Clubman, BMW did an admirable job of permeating the X2 with proper BMW accoutrement, helping sell the idea that the X2, despite being front-wheel drive, is genuine BMW stock.

Inside the cockpit are familiar switch-gear and IP dials, plus a thick, beefy steering wheel (courtesy of the added M Sport X package) adorned with paddle shifters to manually control the eight-speed transmission. The front seats offer seat bottom extenders, a BMW trait I relish partly for the added thigh support and partly because the passenger seat

SPECS Options M Sport X package (\$3,500: 19-inch M Sport wheels, sport seats, M steering wheel, keyless entry and starting); Premium package (\$2,600: head-up display, navigation touchpad); Harman/Kardon sound (\$875); M Sport suspension (\$400); Rear spoiler (\$150)

Problem Areas None

Maintenance Cost \$0 (2-oil change, inspection; in-cabin air filter)

Normal-Wear Cost \$0

3-Year Residual Value* \$26,100 (58%)

Recalls None

*IntelliChoice data; assumes 42,000 miles at the end of three years

extender doubles as a phone and wallet holder when the seat is unoccupied. The seats are wrapped in a synthetic faux-leather material called SensaTec, which does an admirable job of masquerading as the real deal and holds up well against wear. Yet the front seats themselves feel a size smaller than they should, and on long-distance trips they can lead to unwelcome body aches.

But the X2 doesn't completely mask its frugal roots. Inside the cabin you'll find seat belts that lack height adjustment, an old-school mechanical shifter, and HVAC switchgear that only allows temperature

adjustments in even increments of 2 degrees. If 73 degrees is your preferred interior temperature, you're out of luck. Adding to the interior's economy feel is a misguided solution to ambient lighting. The color is changeable like in a Philips Hue Wi-Fi lightbulb, yet none of the colors are warm and inviting, and neither the orange nor amber hues pay proper homage to the signature BMW orange-lit interiors of yore.

Often when stopping at a red light, I'd notice the cabin temperature getting warmer. When the X2's stop/start system kills the engine, it also cuts the air conditioning. The solution, of course, is to deactivate the stop/start system using the button adjacent to the ignition button. Unfortunately, the system activates by default every time the X2 is started. The repeated stopping and starting of the engine also affects interior noise and, consequently, radio volume.

In general, the X2 drives like a slightly taller, expensive, front-wheel-drive hot hatch, because fundamentally, that's what it is. Perhaps this is the BMW you buy when you want a 2 Series coupe but need four doors. This is not to say it drives as well as a rear-drive 2 Series coupe, but the X2 places high value on vehicle

With both seats folded, three skiers plus their gear filled the X2 to the brim, making for a somewhat cozy jaunt to the slopes.





dynamics. The brakes modulate easily, steering is responsive, and the chassis is responsive for a front-drive platform. Toggle into Sport mode, and the driving dynamics get even more serious, plus an optional power meter displays real-time horsepower and torque outputs on the touchscreen. Even a short stint on your favorite road will prove that BMW didn't lose sight of the importance of class-leading handling when tuning the X2.

Special praise is due for how well the X2's hands-free tailgate operates. Lots of manufacturers offer this option, but few function this well. The X2's hatch consistently opened on the first try without the need for any sort of particular directional swipe of the foot or precise distance from shoe to sensor.



The X2's hatch is so light that unless your arms are full, there's no need for power.

The cornering lights deserve a special shout-out. As a city dweller who often parks on the curb, I appreciated these bright lights, which activate at low speeds with the right amount of steering angle dialed in to help prevent curb scraping.

A point of debate among the staff was whether the X2's powertrain was as refined as what we've come to expect from BMW four-cylinders. Some felt the 228-hp turbo-four suffered noticeable turbo lag and displayed a thrashy quality; others opined that the 2.0-liter felt almost like a larger, naturally aspirated engine. Most agreed it was well matched with the eight-speed transmission.

Aside from a flat tire that required a new \$350 Pirelli, there were zero problems to report during our time with the X2. During our test, the X2 visited Beverly Hills BMW twice, once for an oil and filter change at 9,500 miles, and then again at 19,500 miles for another oil and filter change, cabin filter swap, and what BMW calls a standard scope (code scan). BMW Ultimate Care covers maintenance for the first three years or 36,000 miles. For context, our long-term 2017 Jaguar F-Pace 35t R Sport (\$64,743 as tested) also included free maintenance, but our 2017 Mercedes-Benz GLC 300 4Matic (\$50,405 as tested) cost \$1,000.43 for two service stops.

When the X2 hit the market two years ago, its head-turning design helped push the aesthetic envelope in the small SUV market, a fact that helped justify its hefty price tag and promise of exclusivity. Although it's easy to be bewildered by any small SUV with a price this high, it's clear BMW hopes X2 buyers will value its driving dynamics and exterior design enough to pay the upcharge.

2018 BMW X2 sDrive28i

DRIVETRAIN LAYOUT	Front-engine, FWD
ENGINE TYPE	Turbocharged I-4, alum block/head
VALVETRAIN	DOHC, 4 valves/cyl
DISPLACEMENT	121.9 cu in/1,998cc
COMPRESSION RATIO	10.2:1
POWER (SAE NET)	228 hp @ 5,000 rpm
TORQUE (SAE NET)	258 lb-ft @ 1,450 rpm
REDLINE	7,000 rpm
WEIGHT TO POWER	15.1 lb/hp
TRANSMISSION	8-speed automatic
AXLE/FINAL DRIVE RATIO	3.20:1/2.15:1
SUSPENSION, FRONT; REAR	Struts, coil springs, adj shocks, anti-roll bar; multilink, coil springs, adj shocks, anti-roll bar
STEERING RATIO	15.9:1
TURNS LOCK TO LOCK	2.8
BRAKES, F; R	13.0-in vented disc; 11.8-in vented disc, ABS
WHEELS	8.0 x 19-in cast aluminum
TIRES	225/45R19 96H (M+S) Pirelli Cinturato P7 * RSC
DIMENSIONS	
WHEELBASE	105.1 in
TRACK, F/R	61.6/61.6 in
LENGTH X WIDTH X HEIGHT	172.2 x 71.8 x 60.1 in
GROUND CLEARANCE	7.2 in
APPROACH/DEPART ANGLE	15.7/24.5 deg
TURNING CIRCLE	37.2 ft
CURB WEIGHT	3,450 lb
WEIGHT DIST, F/R	59/41%
TOWING CAPACITY	Not recommended
SEATING CAPACITY	5
HEADROOM, F/R	39.8/37.1 in
LEGROOM, F/R	40.3/36.7 in
SHOULDER ROOM, F/R	55.6/53.9 in
CARGO VOLUME BEH F/R	50.1/21.6 cu ft
TEST DATA	
ACCELERATION TO MPH	
0-30	2.4 sec
0-40	3.4
0-50	4.8
0-60	6.4
0-70	8.4
0-80	11.0
0-90	13.9
0-100	17.5
PASSING, 45-65 MPH	3.3
QUARTER MILE	15.0 sec @ 93.2 mph
BRAKING, 60-0 MPH	121 ft
LATERAL ACCELERATION	0.87 g (avg)
MT FIGURE EIGHT	26.7 sec @ 0.66 g (avg)
TOP-GEAR REV @ 60 MPH	1,600 rpm
CONSUMER INFO	
BASE PRICE	\$37,395
PRICE AS TESTED	\$44,920
STABILITY/TRACTION CONTROL	Yes/Yes
AIRBAGS	6: Dual front, front side, f/r curtain
BASIC WARRANTY	4 years/50,000 miles
POWERTRAIN WARRANTY	4 years/50,000 miles
ROADSIDE ASSISTANCE	4 years/Unlimited miles
FUEL CAPACITY	16.1 gal
REAL MPG, CITY/HWY/COMB	27.5/36.7/31.0 mpg
EPA CITY/HWY/COMB ECON	23/32/26 mpg
ENERGY CONS, CITY/HWY	147/105 kW-hr/100 miles
CO2 EMISSIONS, COMB	0.74 lb/mile
RECOMMENDED FUEL	Unleaded premium
EQUA REAL MPG	



A-Spec means bigger wheels, enormous exhaust outlets, and a 1 mpg drop on the highway.

spacious cargo area or the levers that fold the rear seats, but the underfloor storage compartments. Two of the three hidden storage areas are quite deep and very useful—I’m going to miss them.

Even the center console located between the driver and front passenger seats has an innovative storage solution. Center console storage might not be top of mind when most people are shopping compact luxury SUVs, but it’s an awesome bonus, from the versatile cupholder area to the to-go soup container-ready space below the center stack. Shift your gaze higher, however, to find the RDX’s biggest disappointment.

But wait, can we stay positive for a little longer? The 10.2-inch non-touchscreen is placed in an ideal spot for optimal visibility, and the split-screen functionality (on a large horizontal screen) is an infotainment breakthrough that few automakers—luxury or not—have mastered. In an Acura RDX, you never have to choose between music information and a navigation screen.

As I learned over the course of a year, though, there are too many drawbacks. First, the system is simply too slow. It takes too long to get to the navigation screen or turn on satellite radio. And in both our long-term 2019 RDX A-Spec and a 2020 RDX Advance I’ve driven, the side of the touchpad that controls the right side of the split screen occasionally wouldn’t recognize my finger when I swiped down.

If we put aside the six times during the first 14,000 miles the system crashed (or the time shortly after this test officially ended, or when another associate experienced the problem one weekend), the biggest issue is the way the system logic changes when you enter Apple CarPlay.

Acura’s touchpad is different from others in that touching its top left corner highlights the top left of the screen. Makes sense, right? Except that once you enter CarPlay, you’re in Apple’s world (Android Auto finally arrived in early November). The one-to-one touchpad-to-screen ratio is gone, leaving you to swipe here and there to access the screens you want. It’s not a big deal for consumers who can be flexible, but it’s definitely not a strong point considering I spend almost all of my infotainment time in CarPlay.

MotorTrend editors have also criticized the RDX’s brakes—not their capability, but their feel. On our 2019 RDX A-Spec, you have to press too far into the pedal’s travel before any actual braking occurs. In trying

Verdict: 2019 Acura RDX



“My verdict after one year with the Acura RDX? This is no soulless toaster.”

Zach Gale

Base price \$46,495 As tested \$46,895

Service life: 14 mo/25,169 mi
Avg Econ/CO2 19.8 mpg/0.98 lb/mi

After one year with a 2019 Acura RDX A-Spec, I’ve seen the future. If the next-gen MDX and TLX are anything like the RDX compact luxury SUV we’ve put more than 25,000 miles on, new Acuras will feature bold design with a mix of performance and tech. The RDX has set sales record after sales record, but popularity isn’t always a determinant of goodness. So after having spent a year in an RDX, let’s answer the question: Is this flashy new Acura any good?

SPECS Options Performance Red Pearl paint (\$400)

Problem Areas Infotainment screen crashes **Maintenance Cost** \$651.95 (3-oil change, inspection, tire rotation; 1-rear diff fluid service) **Normal-Wear Cost** \$0 **3-Year Residual Value*** \$34,800 (75%) **Recalls** None

*IntelliChoice data; assumes 42,000 miles at the end of three years

The RDX feels like the automaker attempted to combine the first generation’s sportiness with the second generation’s practicality. And in some respects, Acura succeeded. I enjoyed driving our RDX A-Spec on winding roads, though our test crew had difficulties exploring the limits of the Super-Handling All-Wheel Drive system on the track because of a restrictive stability control system. Unlike our long-term Volvo XC60, the RDX has steering feel, an advantage you just don’t get on every compact luxury SUV.

Then again, the RDX isn’t really a “compact,” anyway. Say what you want about the 2019 and 2020 RDX’s bolder design (I like it), the Acura is one of the most spacious SUVs at this price. And although I wish the backs of the front seats were more knee-friendly, the RDX offers plentiful rear-seat space. You could even fit a middle-seat rear passenger without much trouble thanks to a nearly flat floor in the second row.

Around back is an RDX feature that’s brought me way more joy than it probably should have. I’m not referring to the





AS I LEARNED OVER THE YEAR, THE DUAL SPLIT SCREEN COMES WITH TOO MANY DRAWBACKS.

to avoid oversensitive braking behavior, the automaker went too far in the other direction with our 2019 model. After a week in a 2020 RDX Advance, I sensed an improved brake feel compared to our long-timer, so you might not notice a problem here if you're looking into a newer RDX.

The transmission's around-town responses could be smoother, too. On the positive side, selecting the 10-speed auto's Sport Plus mode leads to the type of energetic responses you expect of a puppy who hasn't seen you for a week. About that silver disc to select drive modes: It's way more functional than most drive-mode controllers out there—just try to change drive modes in a newer BMW without looking down. You probably can't.

Looking a few years down the road, we hope the next-gen RDX prioritizes fuel economy more. You shouldn't have to resort to a hybrid for good fuel economy, but to be fair, this criticism is one for the entire segment. Consider that the

RDX line's EPA-rated fuel economy is competitive with the Mercedes-Benz GLC 300 and Volvo XC60 T5.

Acuras don't come with complimentary maintenance, unlike BMW, Volvo, and Jaguar. Over our 25,000 miles with the 2019 RDX A-Spec, the car was serviced three times at a total cost of \$651.95. That's more than the \$106 we spent on regular service for our 2019 Infiniti QX50 but considerably less than the \$1,000.43 we spent on our 2017 Mercedes-Benz GLC 300 over similar mileage. Our BMW X2, however, cost us nothing out of pocket over its year with us.

Ultimately, the RDX story circles back to value and personality. As a pretend buyer with very real bills to pay, rewarding aspects of the RDX range's overall package and its value argument make it easier for me to downplay the car's faults. Although we appreciate the SUV's newfound personality—it was lacking on the 2013 model we spent a year with—Acura still has a bit of work to do. Consumers interested in the solid RDX should know that this Acura is, for better and for worse, as far away from "forgettable competence" as you can get.

2019 Acura RDX SH-AWD A-Spec

DRIVETRAIN LAYOUT	Front-engine, AWD
ENGINE TYPE	Turbocharged I-4, alum block/head
VALVETRAIN	DOHC, 4 valves/cyl
DISPLACEMENT	121.7 cu in/1,995cc
COMPRESSION RATIO	9.8:1
POWER (SAE NET)	272 hp @ 6,500 rpm
TORQUE (SAE NET)	280 lb-ft @ 1,600 rpm
REDLINE	6,800 rpm
WEIGHT TO POWER	14.6 lb/hp
TRANSMISSION	10-speed automatic
AXLE/FINAL DRIVE RATIO	4.17:1/2.17:1
SUSPENSION, FRONT; REAR	Struts, coil springs, anti-roll bar; multilink, coil springs, anti-roll bar
STEERING RATIO	12.0:1
TURNS LOCK TO LOCK	2.2
BRAKES, F; R	12.4-in vented disc; 12.2-in disc, ABS
WHEELS	8.0 x 20-in cast aluminum
TIRES	255/45R20 101V (M+S) Goodyear Eagle RS-A
DIMENSIONS	
WHEELBASE	108.3 in
TRACK, F/R	64.2/64.7 in
LENGTH X WIDTH X HEIGHT	186.8 x 74.8 x 65.7 in
GROUND CLEARANCE	8.2 in
APPROACH/DEPART ANGLE	17.2/21.0 deg
TURNING CIRCLE	38.9 ft
CURB WEIGHT	3,967 lb
WEIGHT DIST, F/R	58/42%
TOWING CAPACITY	1,500 lb
SEATING CAPACITY	5
HEADROOM, F/R	40.0/38.0 in
LEGROOM, F/R	42.0/38.0 in
SHOULDER ROOM, F/R	60.0/57.0 in
CARGO VOLUME BEH F/R	58.9/29.5 cu ft (+1.6 cu ft under floor)
TEST DATA	
ACCELERATION TO MPH	
0-30	2.3 sec
0-40	3.4
0-50	4.7
0-60	6.4
0-70	8.2
0-80	10.5
0-90	13.4
0-100	16.6
PASSING, 45-65 MPH	3.2
QUARTER MILE	14.8 sec @ 94.7 mph
BRAKING, 60-0 MPH	116 ft
LATERAL ACCELERATION	0.81 g (avg)
MT FIGURE EIGHT	27.6 sec @ 0.61 g (avg)
TOP-GEAR REV @ 60 MPH	1,550 rpm
CONSUMER INFO	
BASE PRICE	\$46,495
PRICE AS TESTED	\$46,895
STABILITY/TRACTION CONTROL	Yes/Yes
AIRBAGS	8: Dual front, front side, f/r curtain, front knee
BASIC WARRANTY	4 years/50,000 miles
POWERTRAIN WARRANTY	6 years/70,000 miles
ROADSIDE ASSISTANCE	4 years/50,000 miles
FUEL CAPACITY	17.1 gal
REAL MPG, CITY/HWY/COMB	19.4/30.9/23.3 mpg
EPA CITY/HWY/COMB ECON	21/26/23 mpg
ENERGY CONS, CITY/HWY	160/130 kW-hr/100 miles
CO2 EMISSIONS, COMB	0.84 lb/mile
RECOMMENDED FUEL	Unleaded premium
EQUA REAL MPG	



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SEXICITER LIQUID to Excite Women	\$25.00	\$	Dr. Gross Recommends One Year Supply To Reach Your Maximum Potential.	<input type="checkbox"/> \$170	<input type="checkbox"/> \$210
ATTRACT-A-MATE Pheromone to Attract Women	\$25.00	\$		<input type="checkbox"/> \$80	<input type="checkbox"/> \$140

Individual results may vary. These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure or prevent any disease. V146

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The Big Picture



The law of averages: Sooner or later you'll make a mistake behind the wheel

It's the law of averages. Spend enough time driving cars at or near the limit, and sooner or later something will break. Or, more likely, you'll make a mistake. And if you don't end up rolling the thing into a ball of crumpled metal and crushed glass, chances are you'll have one of those wake-and-wonder moments that will have you staring at the ceiling in the quiet hours.

Trust me, I know.

Flashback to late 1990, to the Honda R&D Proving Ground at Tochigi, 80 miles north of Tokyo, and an early media drive of the Acura NSX. On the serpentine handling track Honda's first-ever mid-engine supercar was a revelation, from the smoothly responsive 3.0-liter V-6 mounted transversely amidships to the slick gearshift, accurate steering, and crisp chassis.

Then it was time to see how fast it was.

The high-speed oval at Tochigi isn't really an oval. Rather, it's two 0.6-mile flat straights, connected by steeply banked 180-degree turns at each end. The NSX ripped through the gears to the accompaniment of a cammy snarl from the 270-hp VTEC V-6, the speedo climbing past 120 mph and on to 130, 140, and beyond as I came off the banking on my out lap.

I'd only ever driven on one banked track before, the 2.9-mile bowl at the old General Motors-Holden Proving Ground outside Melbourne, Australia, and that was perfectly circular, with a constant banking all the way round. Making the transitions from the flat straight to the banked curve was a little intimidating at first, especially as the Honda was touching 160 mph as a wall of tarmac reared up ahead of me. I'd lift momentarily, just before the transition, then get back on the gas.

It was a confidence lift, really, or at least that's what I decided after noticing the NSX was touching 150 mph around each 180-degree turn, absolutely nailed to the track. "You know what?" I said to my colleague riding in the passenger seat as we pulled back into the staging

I kept my right foot buried as the wall of tarmac rushed at me. I could feel the g-forces pulling.

area. "I reckon you can take the turns flat." He looked across and grinned. "Yeah, I reckon you could."

And next time out, that's exactly what I did.

I kept my right foot buried as the wall of tarmac rushed at me. The NSX went through the transitions like a fighter jet breaking left and rim-fired around the banking. I could feel the g-forces pulling at the side of my face as the car hunkered down on its suspension and the engine dropped 400 to 600 revs as the loads built. Physics at work. That should have been the clue.

I did two full laps without lifting and, resisting the temptation to do a third, pulled into the staging area. My colleague and I were grinning at the sheer thrill of it as we cruised to a halt, an army of white-coated Honda technicians emerging to give the car a once-over, as they had done after every run.

It was only after I'd climbed out of the car and taken off my helmet that I noticed there was now more than the usual number of technicians milling around the NSX, and they were paying close attention to the tires on the right-hand side. I glanced over and instantly understood why: The outer tread blocks looked like giant blisters, all bubbled up and almost detached from the carcass. The chief technician looked me in the eye and grimly muttered: "Over speed."

The NSX was quickly taken away.

I knew instantly what had happened. The load and heat buildup from the massive g-forces had started to melt the tires. But it was only later that the enormity of it all truly sank in: Had I done that one extra lap, both tires would have almost certainly disintegrated, probably midway through one of the banked turns. And at more than 150 mph, it would have been like an aircraft crash. With about the same chances of survival.

All these years later, I still sometimes wake up and wonder. ■

With a fully equipped interior that worked and Honda reliability, the Acura NSX was a revelation, proving a mid-engine supercar needn't be difficult to drive.



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